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Seed Breeding in the South

WHAT is seed breeding? Its meaning, no less than its modus operandi, is too often imperfectly understood among farmers. They take it to refer to some horticultural theory or fad, like the raising of pink violets, quite as likely, in practise, to result in failure as in success.

Now, seed breeding is simply the attempt to apply in the cultivation of plants that principle of selection which has been proven so successful in the rearing of fine animals. This work is especially the development of modern intelligence. There have been, no doubt, occasional efforts made in this line by advanced farmers of the older states for many years past, but their work lacked far-reaching effectiveness. The average farmer did not know of it and never dreamed of what it could accomplish.

Luther Burbank, whose great work in plant transformation has been effected not only through seed selection, but through pollenization and budding, thus epitomizes the tremendous possibilities that wait upon plant improvement. He says:

"One man might breed a new rye, wheat, barley, oats or rice with one grain more to each head, or a corn with an extra kernel to each ear, another potato to each plant, or another apple, plum, nut or orange to each tree. What would be the result? In five staples only, in the United States alone, the inexhaustible forces of Nature would produce annually, without effort and without cost, 15,000,000 extra bushels of wheat; 20,000,000 extra bushels of oats; 5,200,000 extra bushels of corn; 1,500,000 extra bushels of barley; 21,000,000 extra bushels of potatoes.

To the casual observer this estimate of increased productiveness seems exaggerated, but coming from so high an authority on the subject we cannot do otherwise than accept it. Along this line, more than any other of improvement in farming, the forces of Nature work for and with the farmer, and unaided secure his increased reward.

If in this line, as in others that concern better farm methods, the South as a section has seemed to lag behind the North, there have been reasons for it. Here there is more ignorance than at the North, in the farming class, and far more conservatism, while the more scattered condition of the rural population makes the spread of new ideas more difficult. For all that, in this section, there has been some fine work done in the seed breeding of corn, and even better work in that of cotton. To call attention to this good work, of which very little is known at the North, is the purpose of this article.

When, early in the eighties, the work of reclaiming this section, ruined by the war, and doubly ruined by the mad policy forced upon the South by reconstruction methods, was at last seriously begun

there were two great difficulties in the way of prosperous farming. One was the extreme and widespread poverty of the people, and the other was the worn-out, neglected condition of the land. Soils which had lain fallow for nearly a score of years were, as might be supposed, utterly denuded of their surface humus by the abundant rains characteristic of the climate, and were often as barren of the elements required for luxuriant plant growth as volcanic tufa. In the effort to build up the soil again by the use of chemical fertilizers, the question of looking closely to the quality of the seed used was neglected. Furthermore, in the case of cotton, the staple which through a great portion of the South occupies fully three fourths of the tilled farm lands, the seed has come to have a commercial value, aside from its use for planting, as ratable and general as that of the lint itself. It was always in demand in markets, and the temptation to sell all seed for cash when

thoroughbred animal is known to be, than the kind of food with which such animal—or plant—is fed.

Every one at all acquainted with the subject knows that through by far the greater area of the Southern states there are but two great staples—cotton and corn. South of Virginia and Tennessee, and leaving Texas out of account, the amount of small grains—wheat, oats and barley—raised is relatively small. Efforts toward seed improvement, therefore, naturally tend toward the two staples noted.

The important point in seed breeding, says Mr. Burbank, is selection of seed, and this only from plants possessing the good qualities which it is desired to develop and perpetuate. This process being continued several years will result in a plant typically far superior to that from which seed was first plucked. Now, in this line, the experiment stations of the South have done helpful work, and so have the diversification farms under the supervision of

cent long-staple variety, only surpassed by the true Sea Island cotton of the Atlantic coast, was bred by a farmer named Griffin, living in the Yazoo Delta, early in the eighties, by persistent selection of the bolls of longest fiber for seed. The Bragg Long Staple comes from North Carolina, and tradition says that it can be traced back to seed gathered from a remarkably fine stalk found in the field of a negro farmer, and was developed through special cultivation.

Corn breeding was undoubtedly first attempted in Tennessee, and more than one of the really few varieties of this staple cultivated to-day in the South originated in that state. It may not be generally known that Tennessee ranks tenth in the corn-producing states of the Union, coming next to Kentucky, which in turn in good years presses hard upon the record of Ohio. The corns raised in the South are almost universally of the "dent" species, a grain of excellent texture, closely set on the cob. All Southern corns sucker well, and are fine for ensilage.

In the agricultural exhibitions held in Jackson, Mississippi, in 1904 and 1905, my attention was especially attracted by the fine specimens of corn and cotton shown there from what is known as the "Jones farm." Inquiry elicited the fact that the farm is situated about five miles from Jackson, and that its owner is engaged in "seed breeding" after the most improved modern plans. I therefore determined to visit the place, and during the summer of 1906 I was fortunate enough to have opportunity to carry out this purpose. What I saw there interested me greatly.

I found here a well-titled farm of less than twenty-five acres a very small area

compared to most of the "plantations" in this section. But observation soon showed me that the value of its yield probably much exceeded that of many far greater in extent. Fourteen acres were given to corn, and ten to cotton cultivation.

The proprietor of this farm has been diligently engaged, he told me, for upward of seven years in the work of improving the seed of the two staples that he raises. He has worked his corn by the well-known Northern methods of seed breeding, using only the largest and most perfect ears for his seed, and during the time of growth, cutting off the tassels of the stunted or otherwise imperfect stalks, to check pollenization through them; meanwhile constant and thorough tillage is carried on, in order that each stalk shall reach a perfect growth and produce the largest number of ears possible. He plants in separate fields the corn which cannot be depended on to make more than four, and that which has been developed up to the point of yielding seven ears to the stalk, so that he is always able to state what the yield of the seed that he sells will be.



PICKING COTTON ON THE JONES FARM, NEAR JACKSON, MISSISSIPPI

This fine cotton was much injured by the great wind storm of September 27, 1906, which came when the work of picking was in progress. This view was taken some three weeks later, when the "top crop" was all ripe. The marks of the storm, in the bent and broken stalks, are plainly shown

the crop was gathered, and trust to luck to replace such seed from the stock of oil mills or other source when planting time came around again, was irresistible. Thus a falling off in the quality of the seed planted became inevitable.

The cotton plant is one which sprouts easily (in horticulture phrase), and the good qualities belonging to any variety can only be preserved by continuous oversight of the saving of the seed therefrom. When, some years ago, it was noted how common stunted plants, with imperfect fruitage, were becoming in the cotton fields, and observers raised the outcry that the plant itself was losing its vitality, the more intelligent farmers of this section came to the conclusion that the way to turn aside this false alarm was to improve the situation. They soon found that though cotton speedily falls off through neglect, it is no less readily reclaimed by judicious selections of its seed. And they began to question whether the labor and expense of lavish fertilization might not be largely dispensed with through the use of better seed. Whether, in fact, the quality of the seed was not more important, as the strain of the

the Washington Department of Agriculture. Through the latter agency, for instance, so much has been done toward securing the cultivation in Louisiana and Texas of cotton varieties that mature early, with the special design of getting ahead of the boll weevil, that the period of ginning in those states this past year was noticeably advanced in time. The selection for early cotton is simple: It consists of using for seed only the earliest-maturing bolls, those that ripen for the first picking.

However, effective work in seed breeding can hardly be called simple or easy, since it calls for keen perception, an unusual combination of intelligence and patience, and unflinching practical effort. Wherefore, the best work in this line everywhere has been accomplished either by enthusiastic scientists, like Burbank, or by farmers directly interested in the production of fine seed. There is hardly a desirable variety of either cotton or corn known here which cannot be traced back, by means of a few inquiries, to the place of its origin, and generally to the individual farmer who first developed it. For instance, the Griffin cotton, a magnifi-

It is a curious fact that the development of corn varieties in the South has always been toward the production of the largest possible number of ears to the stalk. I need not go into the much-contested question as to whether these many ears have equal good value with that of the favorite corn yield of the Illinois farmer—one ear to a stalk, four stalks to a hill—but I notice that this increase in the yield has made corn raising much more profitable in central Mississippi than was believed to be possible a few years ago. Mississippi does not stand high among the corn states, for several reasons. For one, the climate is not wholly favorable, nor is the soil, generally speaking, rich enough. The manure of the barn yard supplies needed elements, and where this is available, the yield is good; but commercial fertilizers are too apt to "burn out" the fiber of the roots of the plant, and thus cut short the crop. Corn is put in earlier than cotton, and like the more favorite staple, suffers if the spring rains are too heavy. On the other hand, the second crop, planted in July, and depended upon by the average farmer for his seed corn for the next year, is quite as likely as not to be fatally injured by the drought and heat that so often befall at this season of the year.

The farmer of whose work I write uses no commercial fertilizers with his corn, regarding barn-yard manure as the only enricher for the crop that can be depended on to give good results.

In regard to cotton, Mr. Jones follows the same plan as with corn, of removing all defective plants in the early stages of their growth. He gives to his field each year not only thorough tillage, but a constant individual oversight, keeping note of its growth from week to week, and of the influences that seem to favor or deter it. Having a soil of good brown loam, he uses no commercial fertilizers whatever, depending for the development and fruitage of his plants on the high quality of the seed that he works so hard to secure.

Through the selection of early ripening bolls for his own seed from year to year this farmer has secured a perceptible gain in the ripening date of his crop. Cotton of an early variety does not linger in maturing, but opens its bolls, from the lowest to the topmost branches, in rapid succession. Wherefore, those who cultivate this kind of cotton do not find the regulation "three pickings," with the gap of a fortnight or more between them, to be necessary; but starting when there is a good showing of ripened bolls, the pickers can be kept at work almost continuously, allowing for a certain amount of stormy weather, until the last basketful of the fluffy bolls has been carried in. Each time, when the workers have gone over the entire field, they return to their starting place and begin over again. They cover the field perhaps five or six times by this plan, and the precious lint is gathered with less waste. Though it occupies more time, this plan is no more expensive than the other, since the pickers are always paid by the amount they harvest, and not by their time in the field.

Our seed breeder, therefore, following generally this thorough plan, goes through the field with trustworthy helpers when the work begins, and directs that the poorest bolls and those growing upon undersized or defective stalks shall be first picked. The seed of these bolls is sent to the oil mill, or if disposed of otherwise, is sold at oil-mill prices, as admitted to be imperfect.

Not until his entire cotton harvest has been gathered does this farmer send any part of it to be ginned. Then, by previous arrangement made with the ginner, the gin is made clean and thoroughly swept, and no other cotton is taken in until that of the Jones farm has been baled, and all taken away, lint and seed. By this plan the stock of cotton seed that is to be sold for planting is kept free from admixture with that of any other variety or grade. By no other plan, this farmer assures me, would he be able to guarantee his seed to those who purchase it for planting.

Furthermore, this farmer every year sows a part of his very best seed in a patch separate from his large cotton field. Tilling this patch with unusual care, he picks and gins its bolls separately from the others, to give him the seed for planting the large field the coming season. And, to complete the circuit of perfect selection, this last stock of seed is picked over during the winter and every small or defective seed in it rejected, while those unusually large and perfect are put aside for use the next season in the special seed patch. Except in the case of some unusual varieties of cotton having small, black seed, the size of cotton seed is held to be an unfailing test of its value, the largest seeds always producing the most perfect and prolific plants.

Contrasting the cotton field of this farmer with scores of others that I have

seen in journeying through central Mississippi, one cannot fail to perceive the remarkable possibilities that may be involved in the work of seed breeding in the South. The ordinary cotton, tilled in the haphazard way common among negro farmers, grows to a height of from two and one half to three feet and bears on its twelve to sixteen branches from thirty to fifty bolls. The improved cotton plant is six feet high, and from two hundred and fifty to three hundred bolls may be counted upon its many branches. Further, noting the fact that every boll on the improved plant contains more than twice as much lint as a boll of the small-type cotton, it is not difficult to understand how the average yield of half a bale an acre can be increased to three bales.

I note the work of this Southern farmer as quite unusual, though not by any means absolutely unique. Since observing it I have learned of two others who are working on the same line in this state, and no doubt in other Southern states there may be a farmer here and there doing the same thing. To me it is especially interesting, because I have witnessed its modus operandi at close hand. Strange to say, I have met farmers here who have strenuously condemned these efforts to improve cotton in this manner, on the plea that its tendency will be to needlessly increase the output of the staple, to the great detriment of prices. The danger is a real one, and yet it is unquestionably better for the South that the work of seed improvement should go on. To increase the yield of the staple to the acre is to lower its relative cost a pound, and thus to rob a lower level of the selling price of its terrors. A. C. CHASE.

REMOVING SURPLUS COMB HONEY

As soon as comb honey is sealed it should be removed from the hive. I don't mean to say that as soon as a section is sealed it should be pulled out of the super from the top; that would, perhaps, give the finest-appearing sections, but would be impracticable, from the large amount of time and labor involved. When all the sections, in a super, except the four corner ones, which the bees will not seal well, no matter how long they are left in the hive, are sealed they should be removed.

I first drive down with smoke as many of the bees as possible. If the bees do not run down readily when first smoked, it should be stopped altogether, for the bees will uncap some of the cells to fill themselves with honey, thus giving it a ragged appearance. When all the bees have run down the super is pried loose from the one below it with a screw driver. It is then carried or wheeled to a bottom board, which has been arranged beforehand, and set on it. The entrance of the bottom board must be closed with wire cloth. The wire-cloth entrance closer that I use is made the same as a drone-excluding entrance guard.

If the supers are not to be piled more than six or seven high, it is best to set them on a flat surface—a board—and dispense with the entrance closer altogether.

When another super is removed, it is put on the one on the bottom board, and so on until the "stack" of supers is eight or ten high. The supers should be put in a sunny place, so the bees in them will be enticed out quicker. If there is an entrance at the bottom, blowing smoke into it will drive the bees out sooner. Also, a lot of bees will collect on the entrance closer, which should be removed from time to time and the bees released.

For covering the stack of supers I use a Miller tent escape, which allows the bees to escape from the supers without giving outside bees an opportunity to enter and carry the honey away again. Its method of construction will be apparent from the following descriptions and the accompanying cut.

First a piece of ordinary wire cloth is cut twenty-two inches long by nine and one half inches wide. A mark should then be made at the middle of one of the long sides, and two marks five and one half inches from each end on the other long side. Two imaginary lines should then be drawn from the five-and-one-half-inch marks to the opposite corners of the wire cloth and the cloth folded on these lines. The two flaps are to be sewed down with fine wire. Now the wire cloth is folded so it will have the shape of a pyramid, and sewed together.

The escape must be fastened to a piece of cloth large enough to hang down several inches when thrown over the supers. The escape should be put on the center of the cloth and marks made where the three corners come. Then the cloth should be cut to the center from each of these marks, the flaps cut off so about two inches of each are left, and the escape sewed to the cloth with string. Be sure to sew tightly, for outside bees will make a desperate effort to get to the honey. They, however, don't know enough to go through the hole at the top of the tent,

that is to be made after the escape is finished. A frame made for the purpose, or an empty super, is to be put on top to hold down the escape. Perhaps a better plan is to make hems on the outsides of the cloth and insert heavy sticks, the same as in window shades, to hold the escape down. F. A. STROHSCHNEIN.

RECLAIMING THE SWAMP LANDS OF THE UNITED STATES

Not only arid, but swamp lands are being reclaimed in great areas throughout our country. The national government is equalizing Nature's gifts of moisture. Irrigation is making the desert bloom like the rose, while swamp reclamation is bringing back solid ground from what has for ages been marshy, miry bogs. In a recent address before the National Geographic Society, Mr. Herbert M. Wilson, of the United States Geological Survey, said:

"In the United States are over 60,000,000 acres of swamp, or overflowed lands. Let us speculate on what drainage of one half of this may mean. If it were possible to reclaim by drainage 25,000,000 acres of these swamps, the land values of the country would be increased by more than \$2,500,000,000 and the crop values of these sections by more than \$750,000,000. If it is possible to subdivide this enormous area into forty-acre farms, it will supply 1,250,000 families with homes, and it would put 6,000,000 people upon lands that are now practically worthless. It is safe to say that each of these families will spend \$2,000 in houses and in equipments for their farms. This will cause the expenditure on the waste land of to-day of more than \$2,500,000,000. An average family of five will spend \$600 a year. This will mean to the business interests of the United States an increased trade of \$750,000,000. The Senate Committee on Public Lands of the 59th Congress reported favorably a federal drainage bill, which, if enacted into law, will eventually produce results not differing far from the above, which now appear but an enthusiast's dream.

"When the Reclamation Service came into existence in 1902 it found ready-made a vast amount of essential preliminary information in the topographic maps of the United States Geological Survey. A study of these maps showed at once



TENT ESCAPE ON STACK OF SUPERS

possible opportunities for creation of reservoirs for water storage and the relation of these and of perennial water supplies to irrigate lands. The engineers were thus enabled within a few months to segregate a number of important projects and put into the field large forces upon the preparation of the detailed plans for construction. To the existence of these topographic maps is to be credited much of the glory of the prompt achievement of the Reclamation Service. Now, five years later, there is available an even larger amount of the topographic mapping so essential as preliminary information to the detailed study of drainage projects. Upon the existence of this data and its intelligent use will depend much of the success of such swamp reclamation as may be undertaken for the whole country on broad and economic lines."

STORING AND STACKING THE SMALL GRAIN CROPS

There is no after-harvest labor at our farm that gives us such good returns for the labor expended as securing the shocked grains from the fields. We do not feel that we have completed the harvesting of these crops until they are

securely stacked in well-built racks or placed under our barn and shed roofs.

We very much prefer the latter, and will work harder at the labor of getting the last sheaf of wheat, oats or barley under cover of a good barn or shed roof than at any other labor about the farm, for it pays us well. We are not only independent of the reverses in the weather, but we ourselves can say just when the thrashermen will pull to our job.

Furthermore, when our thrashing is done we have our bins filled with bright grain, which is always marketed at advance enough in price to pay us for the extra care of placing it in a secure place as soon as it is in condition to store away.

However, some are so unfortunate, through various circumstances, as to not possess large, roomy barn lofts in which to store their grain. In this case the only alternative is to rick these latter crops upon temporary stack bottoms somewhere near the farm barn yard, where the straw is to be placed for the use of the yard's cattle during the coming winter season.

The storing of these crops under the cover of a good barn roof has untold advantages in its favor, and hauling them into the barn may be done promiscuously with other farm work, until the crop is securely stored from the weather. The placing of the sheaves in the mows may be done by an inexperienced man, just so they are placed in such order that they may be readily gotten out at thrashing time. We are very sure that the practice of ricking such grains is far ahead of leaving the grain shocked out in the open fields until thrashing time, when much of it is greatly damaged from inclement weather, and much of the grain is of an inferior grade for marketing.

Our custom of stacking, which we have followed for over twenty years, has always assured us of good keeping qualities, and is worthy the trial of others of our readers who have such work to do in the next few weeks.

After we have the bottom formed of rails, or other timber of sufficient size and length, to protect the sheaves securely from the dampness of the ground underneath the ricks, we pull a load of sheaves up to one side of the bottom, and starting in the middle of the bottom, shock up as though we were going to build a great shock of sheaves.

When the bottom is well filled we start a row of sheaves, butted outward, around the rim of the stack bottom, then follow with rows butted outward until we reach the center of the stack, filling the middle well up.

This repetition is kept up until the stack is completed, with the exception that every other layer which is built around the stack after the outside layer is in place is put down with the heads outward, as it were, butted inward. This forms a greater bulk to the inside filling of the stack, and in settling, the outer end of the sheaves takes a downward slant and sheds water much better than when the sheaves are not reversed.

By this method one gets a bulk in the stack unconsciously, and does not inconvenience the stacker so much as when the attempt is made to keep the middle filled by piling sheaves up in the interior layers.

The stack appears to be built upon a comparative level, and at the time of building looks as though it might settle, dish upward and take water; but it is just the reverse, and each layer will be found settled as though an inverted platter.

Oats does not keep as well stacked as wheat, rye and barley; hence, when we are obliged to rick oats out of doors, we always aim to build the stacks up to the bulge of the rick with oat sheaves, and top out either with wheat or rye sheaves, thus forming a cover for the oats.

In topping out the stacks it is well to look to the closing of all apertures between sheaves; and if wind is feared in blowing off the caps, drop strings across the tops at intervals and fasten weights at each side of the stacks, as bricks, irregular stones or pieces of rails. Never drive sharpened stakes into the top of the cap sheaves, as in very rainy seasons water will follow down these stakes and ruin more grain than to have the entire top of the stacks blown off.

Keep the middles well filled in building, and arrange to drive alternately upon each side of the bottoms, so that in settling the stacks will not assume a drop-sided condition. These crops may be stored by this method a reasonable length of time, or until the machine can reach your job of work, and the manure surplus has been removed from the barn yards.

GEO. W. BROWN.

The enactment of the Interstate Commerce law abolishes the former practice of making complaint against the railroads for discrimination in freight rates. All complaints of this kind should now be made to and through the Interstate Commerce Commission at Washington, D. C.

HOW KANSAS TOOK CARE OF THE "GREEN BUG"

SECRETARY F. D. COBURN, of Kansas, sends me his annual report, and as usual it is right up to date. Mr. Coburn knows his business and also knows how to attend to it. His annual report is a mine of valuable information to both Kansas people and the people of the whole United States.

In all agricultural matters that state is right on the dot. The prompt action of the experiment station cut short the career of the "green bug" that swept the wheat fields of Texas and Oklahoma, and but for the prompt action of the Kansas men would have swept Kansas and Nebraska, and possibly other states. Professor Hunter discovered that the parasite that destroys the "green bug" was fully fifty miles behind the advance lines of the latter, and he sent men to gather them and send them to the wheat fields in front of the foe. When the green bug got there the parasite was on the ground and ready for business, and he did things. The result was that the fearsome green bug, that had the bulls and the bears in the "wheat pits" of the large cities dancing a whirligig, was quickly eliminated as a factor in the wheat yield of 1907.

Now if Texas will act in the future as promptly and effectively as Kansas did this year the green bug will not only do no further harm in that state, but will never be able to get beyond its borders to do any harm or create any flurries in the wheat and flour market.

A BICYCLE GRINDSTONE

A few days ago I called on a farmer and found him grinding a scythe. He was standing on one foot, and with the other working the treadle that turned the stone. He said it was a hard, tiresome job and one he hated. I told him to extend his frame backward two feet by nailing two strong strips of boards to the frame proper, put a bit of board on top of this extension and sit down on it. He did so at once. After treading a few minutes he exclaimed: "Why this is mere fun compared to standing on one foot and treading. I could sit here and grind scythes all day."

I noticed that the stone was hard and glazed and was not taking hold of the metal as it should. This was caused chiefly by being exposed to the weather. I told him to get a pint of sand and pour a little on the stone every few minutes until the glaze wore off and it would take hold of the metal and grind it away much faster. He did so, and before he finished the scythe he declared it worked like a new stone. He has since told me that he never again would have a dull tool on his farm. He said he would sit down and grind his tools while he rested, and instead of chopping the grass and weeds about the place he would mow them with a razor-edge scythe.

When I was a boy I turned grindstones by the hour for father and the hired men, and it was a terribly hard task, and often I declared inwardly that if there was any easier method of grinding tools it would get into my possession at the earliest moment possible. For years I have sat in the shade in summer, and sheltered from the cold in winter, and run my grindstone on its well-oiled bearings with an easy treadle, and kept all tools so sharp that it is a pleasure to work with them. In commencing on a dull tool I always use sand on the stone. It starts the cutting so much quicker, and soon shapes it up for a smooth, keen edge.

GETTING RID OF ENGLISH SPARROWS

A farmer in Indiana, who raises quite a lot of poultry annually, writes me that the English sparrow is one of the greatest nuisances he has to contend with. He says they come to his feeding yards in swarms and eat about half the food he gives his young chicks. They also eat up lots of his fruit as it ripens, and in this respect are almost as destructive as robins and thrushes. He says he would not mind having a few dozen come about, but when it comes to thousands he has to kick. He wants to know how to get rid of the surplus.

He can do as a friend of mine did when his place was overrun by these little pests. This man fastened a box about two feet square and two inches deep on a post five feet high set in his chicken yard, and put a quantity of poisoned chick feed in it, and in a few days killed hundreds of sparrows. He said they would tumble out of the flocks as they flew away. In less than a week he had so reduced their numbers that he had no further trouble with them.

They used to come to my place by hundreds to pick up chick feed during the day, and roost in the evergreens at night. But a pair of little barn owls took up their residence in the evergreens

also, and feasted on sparrow so steadily that what they did not get fled the place and stayed away. This summer they are not troubling me one fourth as much as they have done in previous summers. I formerly had several pairs of wrens' nests about the place, but the sparrows drove all of them away. The last pair made their nest in the pocket of my coat, which I had hung up in the well house, and rather than disturb them I wore a coat that had been condemned to the rag bag, until the little chaps feathered out and flew away. FRED GRUNDY.

SUPERPHOSPHATE VERSUS LAND PLASTER

One of my first experiences in farming was the application, by hand broadcast, of land plaster. At that time the results from such applications were often striking, especially on meadows and pastures, and also on corn. After several years' continued use of plaster these effects ceased, and the practise of sowing this "fertilizer" was abandoned.

A friend now writes me that he would like to use land plaster as an absorbent or deodorizer and as ammonia fixer in his stables and hen houses, but that he is unable to procure it. I can hardly regret this "passing of land plaster." It was not worth preserving, as not worth its cost. The advantages from its application on growing crops were often more apparent than real. For instance, corn, potatoes, grains, etc., often assumed a darker green color and made a stronger growth immediately after the application of land plaster. Yet this effect did not last, and the yield in the end was not larger on the plastered parts of the field than on the untreated ones.

Land plaster contains no element of plant food. Its sulphuric acid has a solvent effect upon the plant foods in the soil, and therefore a stimulating effect upon plant growth. But this effect is of short duration. If in place of land plaster, which is sulphate of lime combined with water, we apply either floats, a finely ground plain phosphate of lime,

useful material ("killing two birds with one stone") in the cheapest forms of superphosphate? I buy the dissolved phosphate rock or acid phosphate, use it freely and know it pays.

BIRDS OR SPRAYING

It is claimed in some quarters that spraying fruit trees, etc., with arsenical poisons has resulted in destroying many birds, and that there is danger, if we persist in our spraying practises, "that the next fifty years will find our homes birdless, and that our grandchildren will have to go to the museums of natural history to see the songsters whose voices are forever stilled."

Sentiment and even sentimentality in favor of the birds—or of any other living creature—are justified and creditable; but they should not be carried to the point of absurdity. The claim that birds are more effective and serviceable in destroying noxious insects in our orchards than the use of the sprayer is not upheld by practical experience.

Whether I spray or not, my premises are alive with robins and orioles and ground sparrows and English sparrows and a lot of other small song birds. But when I neglect to spray, then the tent caterpillar and various other leaf eaters defoliate my trees, the codling worm is in the apple, the curculio punctures the plums and quinces, the scale kills currant bushes and fruit trees, the striped beetle eats the vines and the potato beetle strips the potato crops, etc.

I see only one alternative. Birds or no birds, I must spray, using petroleum and arsenate of lead or other strong arsenical poisons, or lose every green bush or tree on which I depend to give me the fruits for my family's supply or for sale. And I imagine there will be plenty of birds in this world after I am gone.

USEFUL BIRDS

The Department of Agriculture (Bureau of Biological Survey) comes out with a circular in favor of protecting

A reader asks me to write a plea for the "Bartromian sandpiper," or upland plover. I have not seen any specimens of that family in this vicinity. It is known, however, as a game bird the country over, but getting to be scarcer every year. The Massachusetts State bird expert writes: "I consider the upland plover one of the most useful of all birds in the field, a great destroyer of insects like the grasshopper and cutworm, which are among the worst enemies of the grass crop. During the locust invasions in the West years ago this bird saved many a crop for the farmers, and laws were passed to protect it. This seems all forgotten now."

Nobody ever accused the plover of taking food that is useful to man; and nobody will dispute its great usefulness. We may argue about the economic standing of the robin, the oriole, the blackbird, the crow and the sparrow, praising them for the insects they destroy or blaming them for feeding on our fruits and other crops; but all will admit that if any birds deserve the good will and fostering protection of mankind, the swallows and plovers stand in the front line. The upland plover in the West, also known as "prairie pigeons," especially should be struck off the list of game birds in all the states, and every protection thrown around it that law and custom can give it.

BEST POISON

What I said in the issue of May 10th about arsenate of lead has seemed to stir up a hornet's nest. Letters have come from all over, asking for more information, especially in regard to the proportions to be used in small operations.

Arsenate of lead is not a new discovery. It has been mentioned in these columns innumerable times, and the proportions to be used—from two to ten pounds to the one hundred gallons of Bordeaux mixture, or even water alone—have also been repeatedly mentioned.

The formula for its home manufacture, with special reference to its use for the gipsy moth or for other insects, where to be used with water only, is given in some of my books on gardening, about as follows: Dissolve eleven ounces of acetate of lead (sugar of lead) and four ounces of arsenate of soda in one hundred and fifty gallons of water. These substances quickly dissolve and form the acetate of lead.

This remedy was first used for the gipsy moth, and is known also under the name "gypsine." When it settles to the bottom of the liquid it forms a white pasty mass, leaving the clear water on top. This can be poured off if the paste is to be kept for any length of time, and the arsenate of lead may be stored in tight glass jars.

When to be used for small operations, as in the garden or potato patch, I load my knapsack sprayer with about three gallons of Bordeaux mixture (I never spray with water alone), and add, mostly by "guess," a quantity of the lead arsenate paste. I believe in strong doses, and would rather use more poison than really needed than not enough, but try to get it at the rate of three to four pounds to one hundred gallons of liquid, or not less than one half ounce to the gallon, for potatoes, and a little more for vine bugs. For the rose chafer more than an ounce of it may be required.

People who are frequently called on to mix such doses for use in their gardens should keep some sort of small measure or spoon on hand for dishing the poison out, and carefully weigh off an ounce once or twice, so as to be able to tell quite accurately what quantity to use without having to weigh it every time.

The pasty mass is quite adhesive and not readily dissolved. The best way I have yet discovered of getting a good and quick solution is to place it in a quart or two-quart glass jar with a little water or Bordeaux mixture, seal the jar tightly, and then give it a good shaking until the arsenate is all dissolved, then empty it into the spray liquid in the tank of the knapsack, or into the barrel if a barrel pump is used.

I seldom make my own arsenate of lead, but prefer to buy it ready made, and it is immaterial to me whether I buy it as arsenate of lead, as gypsine or as disparene. There are a number of firms who advertise it in the agricultural papers, and I always try to get it from the one nearest to me. I am not aware that there are any adulterations on the market, or that any of the firms offering it are unreliable. In all such dealings, however, the reader must use the ordinary discretion and judgment of the good business man. T. GREINER.

The growing of durum wheat has proven a success. The total exports during the eight months ending March 15, 1907, aggregated nearly fourteen and one half million bushels. *



Photo by Verne Morton

THRIFTY POTATOES

The boy stands in the middle between two rows a few feet in front of the camera, which stands in the middle between the same two rows

or better, superphosphate, in which most of the lime is combined with sulphuric acid, leaving the phosphoric acid mostly soluble in water, then we secure all the stimulating or indirect effects of the land plaster, besides furnishing real plant food to the crop.

This plant food—phosphoric acid—is of special importance in growing cereal and many other crops under a rotation based upon the occasional use of stable manure alone. The latter is but scantily supplied with phosphoric acid, and this deficiency will be nicely made good by the application of plain superphosphate to the land, or by its free use as absorbent, deodorizer and ammonia fixer in stables, hen houses or on the fermenting manure heap in the yard.

In short, why look for land plaster when we have so much better and more

the various kinds of swallows. About this bird there can really be only one opinion; namely, that it is a harmless and an eminently useful fellow. They are with us from spring until fall, always on the hunt for flies, mosquitoes, grasshoppers and bugs of various kinds, and never take any food that is of value to man. I am not aware of a single case of malicious persecution of this bird even by mischievous boys, although such cases may now and then happen.

The swallow around me is safe and allowed to pursue its life mission of keeping flies and mosquitoes in check in peace. In the cotton-producing states the spread of the boll weevil makes the protection of the several species of swallows, including the purple martin, especially important, as all of them feed upon the weevil. Build them houses!

CONCRETE SILO CONSTRUCTION

TO BUILD a cement silo, forms are the first requirement. They are best made of plank twelve to fourteen inches wide and of the length best suited to handle. If the silo is to be a round one—and that is the best form—the plank form will not be as good as a form made of an upper and lower piece of plank sawed to the proper curve and held together by short pieces of boards up and down. There must be several of these forms—enough to go clear around the silo. They are made in two sets, one for the outside and one for the inside, and when set in place they are held from spreading by long bolts with ring in one end and washer and nut on the other end. When the forms are in place and properly leveled and plumb, they are filled with concrete level with the top. In twenty-four hours the nuts and washers are removed, a stick inserted in the ring and the long bolts loosened and drawn out. The forms are then raised to the top of the wall, where they are again set in place and filled as before. This goes on until the silo is the desired height.

Fence wire or iron rods should be embedded in the wall as it goes up, to re-enforce it and prevent cracking. This is laid right in the forms and covered with cement. The wall should be two feet thick at the bottom, gradually tapering from the top of the ground to the top of the silo. The taper must be on the outside, so as to leave the inside plumb. This can be done by having a long thread on the bolts and drawing the outside form in slightly each time. Twelve to fourteen inches thick is sufficient for the top of the wall. The outside and inside of silo should be thoroughly well plastered with cement mortar—one part Portland cement to two parts clean, coarse sand—when finished.

The best mixture for the body of the silo will be one part cement, three parts sand and four parts broken stone or clean gravel. Crushed stone is preferable to the gravel, as it makes a better bond, but the gravel will make a good wall with wire re-enforcement. Put in several strands of fence wire in every other tier or form. Be sure to mix the cement, sand and gravel dry first, then wet it and re-mix. Do not throw water onto the mass, but add it slowly as the mixing goes on. Too much water will wash out the cement and leave the mixture worthless. To make a good job every piece of stone or gravel and every particle of sand must be coated with cement.

When the concrete is put into the forms it should not be too wet and thin—just wet enough to pack well. It should be tamped until the cement shows on top. Just sufficient to pack it well, but not too much.—The Wisconsin Agriculturist.

SUMMER PRUNING

The practise of summer pruning is gaining new friends every year. The Kansas station has found that it gives very satisfactory results. From careful experiments made by the horticultural department of that station during the past four years it seems that pruning of fruit, shade and timber trees during the early summer and late spring is more satisfactory and secures better results than pruning during the dormant season in the winter and early spring.

Wounds made before the middle of July heal more quickly than those made at a later date, but wounds made as late as August 15th have healed very successfully. The danger of loss of sap is less after the tree is well in leaf than from wounds made during winter and spring. This difference is more noticeable in maples, elms and mulberries than other species under observation.

In extreme tests made on an apple orchard some very satisfactory results were secured with ten-year-old trees, which had borne but little and showed but few fruit spurs. Trees pruned in the summer, the pruning consisting of cutting back new wood and thinning where a too heavy growth was present, and a similar pruning given the following year, were full of bloom and carried a very fair crop of fruit.

Trees pruned in summer grow fewer water sprouts than those of similar age and size pruned in winter or early spring. Water sprouts removed during the summer are less liable to be followed by another crop of the same growth where the pruning is done in the winter.—Journal of Agriculture.

RAISING CHICKS

I have tried about every popular and important method of feeding and brooding chicks, and if I have nothing else to show for this work it was worth while as showing that success in this line is not a matter of any particular method of feeding or any special feed; different types of brooders and methods of handling have

little to do with it. "Good care," if any one knows what that means, is alone the secret of success. However, the different methods and different feeds have a decided bearing on the convenience and labor cost of doing this work, and much can be done to simplify the details.—Homer W. Jackson in the National Stockman and Farmer.

HOME-MADE BAG TRUCK

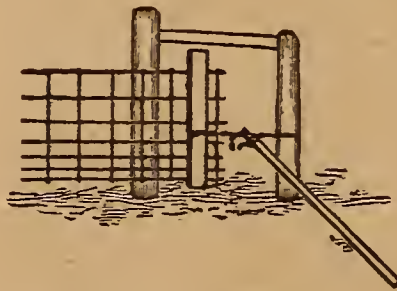
A great convenience for handling sacks of grain may be easily made at home. Two side bars four feet long, two inches wide and one and one half inches thick



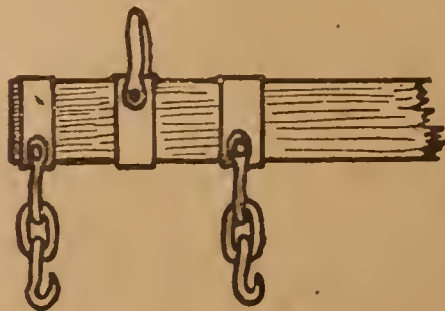
are about right for the handles. Two discarded plow handles answer the purpose very well, and two plow wheels or cultivator wheels may be used for rollers. The holes in the wheels will determine the kind of axle to use. If the holes are small an iron axle would be necessary, but if the holes are large a piece of hard wood will do for an axle. Gas pipe makes a good axle and is easily drilled each side of the wheel, so that washers and bolts may be used to keep the wheels in place, or the axle may be made the right length, the ends threaded and lock nuts screwed on the ends. Two buggy thill irons will answer for the front. These may be bent to shape at the home forge (every farmer should have a home forge), but it is only a small job at the blacksmith shop. The irons should be bolted through the side pieces and a rod run across from one to the other in front, to rest the sack on. The legs may be fastened to the under side with strap hinges, so that they will fold back when the truck is hung up. Then paint it and put a hole in its ear, so you may replevin it from the neighbor's flock if it runs away from home.—E. Hollenbeck in the Farm Press.

WOVEN-WIRE FENCE STRETCHER

Five or six feet from the end of the corner or end post I set a temporary post as an anchor for the stretcher. A brace is placed between the tops of these two posts as shown, which completes the an-



chor. A clamp made of hardwood two by fours is bolted on the end of the woven fence, and the stretcher proper, the end construction of which is shown in detail, is hooked in position. The chain from the anchor is hooked into the lone hook on one side of the stretcher and the chain from the fence clamp hooks into one of the two on the opposite side. The lever for the stretcher is about ten feet long and of sound timber, as one cannot afford to risk a break at this point. The lever is worked back and forth and the pair



of hooks are alternately fastened in the chain from the clamp until the fence is taut. A blacksmith can make the necessary parts of this stretcher, and the bolts for the clamp can be purchased and that part made at home. It is much handier to have a stretcher of your own than to have to depend on borrowing and then never know when one may be secured, as other people usually want to stretch fence just when you do.—J. W. B. in the Homestead.

Review of the Farm Press

THE DAIRY MACHINE

The cow has been aptly termed a machine for the production of milk and butter, and, as already mentioned, she is an unusually sensitive creature, reminding us in this respect of the most sensitively developed of the machines which human efforts have been able to devise. When we think, for instance, of the phonograph, and recognize that it is so sensitive as to produce the vibrations caused by the human voice in passing through the air, we realize that human skill has developed some mechanical wonders. We realize that violence toward such a machine or indifferent handling and management would result in the destruction of its power to reproduce the human voice. Yet we do not, as a rule, appreciate that the cow is simply a bundle of nerves and extremely sensitive, more finely wrought and developed in every particular than the highest conception of mechanical mechanism which the human brain has ever conceived. A little reflection on the part of the dairyman, a higher appreciation of the milk-giving function, would certainly teach him to exercise more care and patience toward her and to feed and handle her so as to soothe her highly wrought nerves and secure for himself the energy which they possess rather than have it dissipated by angry words, violence and improper nutrition.

In this connection it is well to consider what the cow was in a state of Nature, and what she has become under the scientific development, careful selection, breeding and management of recent years. In a state of Nature the cow gave enough milk to nourish her young. Through a long line of breeding and careful selection animals of wonderful capacity for milk production have been developed. It is said, for instance, that the Holstein-Friesians have been kept pure for more than two thousand years, and the Jerseys and Guernseys both have an ancient lineage, and hundreds of men have been at work endeavoring to improve their useful qualities for many years past. The modern dairy cow, with her highly developed maternal instinct, is, therefore, not an accident, but the result of a definite purpose followed tenaciously through many years. She stands as the emblem of what scientific, intelligent human effort can accomplish. She represents the highest type of skill in animal workmanship under human guidance. She is a highly wrought and peculiarly sensitive creature. This fact cannot be impressed on the dairyman too deeply.—Southern Farm Magazine.

FOOD FOR WORK HORSES

We must always remember that oats form the ideal grain food for the horses, says Prof. W. A. Henry of the Wisconsin Experiment Station. The kernel proper contains a large amount of nutrient. The hulls surrounding the grain give the material bulk, tending thereby to prevent overfeeding and at the same time rendering the food light and easy of digestion by the fluids of the stomach.

Where horses are hard worked one should depart from the oats ration with caution and learn by experience what can be accomplished. The farmer might well try bran and gluten feed as partial substitutes for oats. Remember that bran is light and partially inert, so that it may take the place of a small portion of the hay formerly consumed. On the other hand, it furnishes to the horse probably three fifths or three fourths as much nutriment as the same weight of oats. In using gluten feed, remember that it is considerably higher in protein than oats and almost or quite as rich in carbohydrates. In the trial way reduce the oats allowance one third and substitute a mixture of bran and gluten feed, equal parts by weight.

Remember, too, that corn can always be fed to horses with satisfaction. There is a limit, however, to its use, and in such cases as these the supply should not be large. For one feed each day allow a couple of pounds of corn in substitution for the same of oats. The corn will furnish more energy than the same weight of oats. Remember that corn causes horses to sweat easily if fed in large quantities. It is a better winter than a summer food, though some may be fed in the summer. Corn is a strong, hearty food, and is much appreciated by hard-working horses, because it does furnish so much energy. In the southern portion of the corn belt horses live almost wholly on corn. Further north, where oats are the main crop, they subsist almost entirely on the latter grain. A combination of

the two will usually prove more economical and better than to feed either so exclusively as is customary.—The Texas Stockman and Farmer.

MARKETING LAMBS

In my experience of ten years I find that from the first of July to the middle of August is the best and most profitable time for marketing lambs, everything considered. Sell them at the age of four or five months. The price is from six to seven cents a pound. This is money made quickly and with but little risk. The ewes are left in better condition than when the lambs are sold later. Some think that earlier lambs pay better, but I do not. From the first of April to the middle is the best time for them to come. Then one soon has grass and good warm weather, and the lambs will thrive and be as large as those two months older. Do not castrate or dock them. Give them the best care. If sold older they will, of course, be larger, but the price will be less, and then there is the risk of dogs, wolves and disease. One more objection to early lambs is the ticks. They do not do well on this account, and it is too cold to dip them.—The Farmer's Guide.

INTESTINAL PARASITES OF THE HOG

There are a number of different kinds of worms found in the alimentary canal of the hog, but probably the one most commonly found is a large white worm, varying in length from five to ten inches. This parasite is usually found in the small intestine. Other common parasites of the intestines include the thorn-headed worm of the small intestine, the pinworm of the rectum and the threadworm of the large intestine. The effect of large numbers of any of these parasites is to interfere very materially with the growth of the hog. Young hogs and pigs are injured to a greater extent than adults, as they frequently become stunted to such a degree that it is difficult to get them to growing and thriving as they should.

Generally no care is taken to prevent the hogs from becoming infected. One infected hog in the lot will under ordinary conditions, soon infect all of the hogs in the lot, as the principal means of spreading the infection is through the dirt of the feed lot and by means of surface water that is frequently used for the hogs to drink and wallow in. The treatment for most of the intestinal worms is simple and generally very effective, there being a number of remedies available. The following are among the most common and effective of the remedies, and the dose given is for each one hundred pounds of live weight. Fluid extract of spigelia and senna mixed in equal parts in half-ounce doses twice or three times a day until purging takes place. The cedar apple may be ground up and given in thirty-grain doses three times a day for two days and then followed by a physic. A mixture of powdered wormseed and areca nut in teaspoonful doses twice a day is recommended. Turpentine is probably the best general remedy to use. Give two teaspoonfuls in milk or a small amount of slop twice a day for two days. If a number of pigs are to be treated they should be divided into lots of five or ten and then given the medicine mixed with their feed. All of the remedies should be followed with a purgative except where the remedy itself is a physic. For this purpose give an ounce of castor oil or linseed oil. A mixture of salt and ashes kept in the lots where the pigs can get what they will eat of it is a good remedy to use for preventing intestinal worms.—Oklahoma Experiment Station.

A GOOD CALF-REARING MIXTURE

The following is one of the most successful of home-made calf-rearing mixtures when used along with a little linseed cake: Two parts, by weight, of oatmeal; two parts of cornmeal; one part of pure ground flaxseed.

These meals should be finely ground. It is prepared for use by boiling with water, or by scalding with boiling water, and allowing it to stand for twelve hours. The calf rearer is recommended to begin with a quarter of a pound per head daily for calves a month old, new milk being fed the first month. The allowance may then be increased to half a pound and more a day, as the calves become older; and the meal may be supplemented profitably by half a pound to one pound of pure linseed cake per head daily.—W. R. Gilbert in the American Cultivator.

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Gardening

BY T. GREINER

RHUBARB GROWING

A MARYLAND subscriber asks for directions for raising rhubarb. Set the plants, or sets (a piece of root with at least one good eye or bud), in any out-of-the-way place on the premises where the soil is very rich, keep the surface mellow and free from weeds, and you will get rhubarb. The richer the soil, the bigger the growth and the more tender the stalks.

Six or a dozen plants will supply a family with all the rhubarb desired for use or canning, and it is very good and comes quite handy during winter when canned.

It is also a good crop to market. The demand in spring, and at times during the entire season up to fall, is very good in the more thickly settled locations. We have been selling quantities of it to neighbors or near-by stores, and it is profitable.

If we grow it for market, a piece of ground that can be devoted to this crop for a number of years is heavily manured and thoroughly prepared, and good sets are planted in hills four feet apart each way. We cultivate and hoe it as we would any hoed crop, and never fail to raise an immense amount of stalks. The best and fattest stalks come from the newer beds. After they have become a number of years old the roots have grown large and the eyes or buds numerous, and naturally the stalks get smaller and smaller, so that it becomes necessary to take the plants up, cut the roots in pieces, and replant, either on the old or on a new plantation with these root pieces. Sometimes we take some stalks off these new plantations the same season, of course, only for fall use. The second year there will be a full crop, and really the best in the entire life of the patch.

People around here have acquired the habit of canning rhubarb very freely, especially in a season when other fruits are scarce or high priced. It makes good sauce and good pies. In fact, we consider rhubarb one of our most satisfactory and most profitable garden crops, for it requires only a minimum of labor and attention, which, in these days of scarcity of help, is not the least of its advantages.

PRUNING GOOSEBERRIES AND CURRANTS

A reader asks about pruning bush fruits, especially gooseberries and currants. A good many people let these bushes have their own sweet will, and never think of pruning them in any way, and yet secure good fruit. This may do with the currant, as it has no thorns. But it is a mean job to gather gooseberries from a neglected, unpruned bush. The gooseberry bush has the advantage of the currant, in that it is comparatively free from the scale.

Outside of the Juneberry and perhaps the Japanese (flowering) quince, I know of nothing more subject to scale attack and scale injury than the currant. I made a big mistake last year. My currants, then slightly infested with the San Jose scale, were sprayed with a strong whale-oil soap solution, supposed to be an effective remedy for that insect. We did have a magnificent crop of currants, some of the bushes giving over half a bushel of fruit, but in late fall the bushes were found to be covered with the incrustations of the scale. This spring I sprayed them in April with petroleum, but most of the canes were already dead. We will have to do considerable pruning of dead wood, and there will be but little left to give us a crop of fruit this year. The new growth will be free from scale, and for next year we can expect to get a full crop of currants again. Usually we remove a portion of the old canes, leaving four to six of them to bear fruit.

From the gooseberries we cut most of the small inside branches, and some of the oldest wood that has seen its best days. We try to open the bush in this way, so that we have a chance to gather the berries without getting our hands and arms all torn to pieces by the sharp thorns.

RHUBARB SEEDING AND WINTER FORCING

The natural tendency of seed production shows itself in rhubarb when the first leaf stalks are hardly large enough for use or sale. In order to keep the energies of the plant confined to the production of leaves the seed stalks must be cut off or pulled out just as soon as they can be recognized as such.

Our practise is to remove the seed stalks as fast as we come across them in pulling leaf stalks for bunching or for

home use. We go through the patch at regular intervals—two or three times a week—all during the entire rhubarb season, and no seed stalks are left unless it be one or two on an especially good plant, which is sometimes done for the purpose of growing a little seed for starting new seedling plants. These may come handy the second year for winter forcing. In my own practise, however, I have usually taken some clumps right out of the patch for that purpose, replanting the vacant spot with a root piece.

If a business is to be made of growing rhubarb in a cellar or under greenhouse benches, or in a house constructed or arranged for that purpose, during winter, the better way is to set a lot of rhubarb sets (pieces of root with at least one good eye) in spring in a nursery bed. The plants may stand two feet apart each way, but the ground must be rich. In the fall the clumps may be taken up, with much soil adhering to the roots, and left out to freeze. Four to six weeks before the stalks are wanted, the clumps are planted close together in the place prepared (cellar, under greenhouse bench, etc.), and given the proper temperature by artificial heating.

WINTER INJURY

When I see the havoc that the past winter, with its many sudden and violent changes of temperature, has wrought among the shrubbery, fruit trees and bushes all over the premises, and the general heaving out of clover, strawberry plants, etc., then I do not wonder in the least that my Silverskin onions, started from seed early in August last year, also succumbed to some extent.

Few live peach trees are left this spring in this vicinity, and apples, pears, etc., show less vitality than in normal seasons. Blackberry canes, even of the hardiest varieties, raspberries, and many of our hardy ornamental shrubs, are largely winter killed. I fear that we will have to cut out a good many of the things that gave us much comfort and pleasure in other years. Add to this the work of the San Jose scale, many apple and pear trees also having been killed by this pest, and there will be many vacant and desolate spots where we had thrifty and useful growths for years.

But all this should not discourage us to the extent of refusing to plant. We must plant to provide for the deficiency otherwise in sight for the near future. Such a winter as the one just past is not likely to come again right away. He who now plants, and successfully fights scale and other insect pests, is sure to reap his full reward. Plant strawberries! Plant currants, raspberries, blackberries, hardy peaches and all the other good fruits that are adapted to your climate and locality. Take care of them, and they will pay.

GRAPE VINE TRAINED TO HOUSE

If I had no other or better place for a grape vine, I would certainly try to have one or more trained up on the south or east side of the dwelling house, so as to have at least a taste of this good fruit. We can make quite a show of fruit even with one or two thrifty Concord or Niagara grape vines, these varieties probably being the best for the purpose, with the Concord still in the first place.

Some people like to use them as a screen for an east, south or southeast window, and they are easily trained so that the ripe grapes may be gathered through the window, even in the second story. If the main cane is trained straight up at the north or west side of the window, a lateral may be run horizontally just above the lower window, and another horizontally above the second-story window, so that the fruiting branches may grow and hang straight down over these windows.

My idea, however, is that the windows are put into the house to admit light, and I would not care to have any window obstructed by grape vines or any other creeper. My preference is for the grape vines to be a little ways off the window. Still better it would be to have a row of grapes at one end of the garden. For family use we want a number of varieties, among them Green Mountain as a first early; then a Delaware or two, if the location is right for it; several Concord, of course, and a Niagara or two, and also a Brighton, which is one of the best in quality, but not always setting fully, as it needs other varieties near it to pollinize the blossoms.

This community is rapidly building up. The time may come when I get cramped for room. I shall then plant these varieties in a row or two across the rear end of the premises, set posts with crossbars six or six and one half feet above the ground and wires strung over these crossbars, so that the ground underneath may be planted with gooseberries or currants. This arrangement also permits of easy cultivation by horse, as horse and man with cultivator may freely pass through under the wires and vines.

Fruit Growing

BY SAMUEL B. GREEN

POT THE STRAWBERRY PLANTS

I used to have poor success in setting strawberry plants, but that is now a thing of the past. Then if I secured a stand of twenty-five to forty per cent of plants I had to grumble and let it go. Now I do not get less than a stand of ninety to one hundred per cent. My method is as follows:

In September I secure as many florists' two-inch crocks as needed, and digging layer plants from the row, I pot these plants, using good loamy soil, and plunge these into loose soil as thick as the crocks will sit, to remain all winter. As soon as winter sets in all are covered with leaves or marsh hay, and left thus until spring fairly opens, when the covering is removed. About the middle of May the crocks are taken from the bed, conveyed to the plot to be planted, dropped at twelve to fifteen inches apart up the mark, and the plants removed with the ball of earth and roots intact from the crock, and set at once.

Now what are the advantages gained by this extra labor and expense? Well, the plants live, in a month a fair picking of berries can be made, and surely the satisfaction and good feeling that comes to one when working among full rows of healthy plants and the pleasure there is in strolling out in the evening to look them over amounts to a tidy little sum on the credit side. E. H. BURSON.

ANTS TROUBLESOME

A. W. B., Los Angeles, California—The best way to destroy ants in places where they are troublesome is to seek out their nests, which will generally be found in the near vicinity, and kill them by the use of a small amount of bisulphide of carbon. This material is much like gasoline in inflammability, and must be handled with great care. The vapor of it is death to all animal life closely confined in it. There is, however, no danger in handling it, provided one is careful. To use it successfully, dampen a piece of cotton batting the size of an egg with it, and place this on top of the ant hill, and cover the whole with a newspaper or similar covering, taking pains to close the edges tightly by covering with earth. Treated in this way the whole hill will be destroyed.

Where the ants cannot be found and they are still troublesome, the best treatment is to place corn cobs dipped in molasses about the rose bushes, and on these the ants will gather, when they may be picked up and dropped in scalding water or kerosene.

It is seldom that ants are troublesome on cultivated plants. The ants that are noticed on our rose bushes, peonies, apple trees, etc., are generally in search of the honey dew secreted by the plant aphids found on the plants, and do not eat the plants at all.

APPLE AND PEAR BLOOM KILLED BY FROST

J. P. J., Gladys, Virginia—Where apple and pear trees have the flowers or fruit killed by spring frosts it generally causes the trees a very serious setback, but they will recover from it in the course of a few weeks. If the trees made a good growth last year, and are in a thrifty condition, there is no need of paying special attention to manuring or cultivation more than usual. If, however, they are weak, then it would be a good plan to manure them and also to cultivate the soil about the roots, and to shorten especially vigorous wood and remove that which is weak or diseased.

SAP FLOWING FROM TREES

Mrs. L. E. R., Duluth, Minnesota—I dislike very much to see the sap flowing from wounds in trees in the spring, as it frequently results in a slight killing back of the portion from which the sap flows. The simple flow of the sap from the trees is not necessarily harmful, as witness the fact that a large amount of sap is frequently drawn from maple trees each spring without in the least injuring their growth. The sap will stop flowing as soon as the trees begin to put out leaves. There is nothing you can do at this time that will effectually prevent the flow. I do not think anything serious will result.

CUTWORMS INJURING RASPBERRIES

C. C. McC., Egypt, Washington—Cutworms are sometimes extremely troublesome in small-fruit plantations by cutting

off the young plants as they come out of the ground. Seldom, if ever, however, are they troublesome except where the land on which the small fruit is planted was in some grass crop the previous year, or else allowed to grow up to weeds in the latter part of the summer. The moths of the cutworm lay their eggs in the grass or weedy land during the latter part of summer, where the larvae can find food. They do not lay where the ground is bare. Occasionally, however, there may be an apparent exception of this rule, where rows of small fruit are adjacent to grassy or weedy land, so the cutworms that breed in the grass land may work their way into the small-fruit plantation, but severe injury from this cause is unusual.

Where cutworms are abundant, the best remedy is to make a bran mash, in which is placed about one teaspoonful of arsenic to a gallon of the mash. This should be scattered around through the plantation, and it generally affords satisfactory protection.

SCALE ON SOFT MAPLE

T. McK., Pittston, Pennsylvania—The soft maple twigs which you sent, and which have a large number of roundish scale insects on the side of the smaller branches, are infested with a scale known as Leucanium. While this is not as injurious a pest as the San Jose scale and the cottony maple scale, yet it is dangerous enough so as to warrant careful attention. This insect is not easily combated in the summer, but yields very readily to winter spraying, either with soluble oils or with the lime-and-sulphur mixture. The application of this material to large trees is expensive, and on this account it may be difficult for you to have it properly attended to.

The fact that this scale is abundant on your trees goes to show that it is probably abundant on other trees in the neighborhood, and it is liable to spread and become a very injurious pest. On this account and on account of the fact that machinery suitable for fighting this insect would be rather too expensive for any single individual, it seems to me that your city organization ought to take hold of the matter as a public question, and either destroy it without charge or at a nominal cost.

BROWN ROT OF PLUM TREES

H. J. W., Orchard Park, New York—The reason why your plums were affected with the soft rot which destroyed nearly all of them is that they were affected with a disease known as brown rot (*Monilia fructigena*). This fungous disease frequently causes this injury in plums, cherries, peaches, grapes and even in apples. In dry years it may cause but little injury, but in moist, warm weather it spreads with great rapidity and may destroy the whole crop.

The remedy is spraying with Bordeaux mixture, which should be applied about once in two or three weeks after the fruit is well formed. It should be made from a formula not stronger than four pounds of lime, five pounds of sulphate of copper and sixty gallons of water. I would suggest that you try this material to see if it injures the foliage before you treat your whole orchard. The foliage of the stone fruits is quite susceptible to injuries from mineral acids, and occasionally it might be injured by a Bordeaux mixture made from this formula. In this case, if the foliage is injured, then I would suggest that perhaps ten gallons more of water be added and a pound or two extra of lime. It is a good plan to spray in the spring, before the buds expand, with a solution of one pound of sulphate of copper to twenty-five gallons of water and to remove and either burn or bury deeply the dried fruits hanging in the trees.

OYSTER-SHELL BARK LOUSE

L. H., Hilliards, Pennsylvania—The specimen of apple tree which you sent is infested with what is known as the oyster-shell bark louse. This is a very common pest. The ordinary remedies used for San Jose scale are effectual against this pest. One of the best remedies is one of the soluble oils commonly recommended for this purpose.

PECAN TWIGS INJURED

J. L. B. & Co., Rosebud, Alabama—The pecan twigs which you sent I have carefully examined, and the buds on them seem to be injured by the bud borer, which I think is largely, if not entirely, responsible for the blighted appearance of the twigs. In addition to this, there may be a slight injury due to late frosts or similar disturbances. The work of the borer is seldom very injurious, but occasionally is troublesome for a few years. I do not know of any satisfactory remedy for it, and think you will have to trust to good care in carrying the plants over the time when it is abundant enough to be troublesome.

Poultry Raising

BY P. H. JACOBS

REMOVING SITTING HENS

A GOOD sitting hen usually objects to being moved to a new location and some sitters will leave the new nest to return to the old one. A sitting hen should be moved at night, using as little light as possible during the operation. She should be moved in the box or basket in which she is to remain, with cut straw instead of too much coarse material. Put china eggs in the basket, and cover her with a heavy cloth to keep the light out. If she intends to sit she will show unmistakable signs of contentment when you happen around the next day. If she does not mean business she will leave her eggs. If she shows a disposition to remain on the nest, leave her on the substitute eggs for a day or two, and then put good ones under her, keeping her well covered with a heavy cloth until she thoroughly takes to the nest.

THE LARGE CHICKS

Chicks hatched in March or April are now able to assist themselves, for after they are well feathered they are usually hardy and may then be given anything they will eat. In fact, there are no secrets of feeding. All that is required is to give a variety of food; if the chicks are on a range they will not need much assistance.

The most important matter of any is to prevent lice. When the early hatches thrive, and the chicks of later ones do not seem to grow, the cause is usually due to lice.

The farmer should put his early chicks on a plot where the grass is not high, for tall grass is just what the cat and rat desire in their preying upon the chicks. A mowed lawn is an excellent place for the smaller chicks. It may not always be convenient to watch the chicks when they are at liberty, but the early ones are valuable at this season, and the farmer cannot afford to lose them, compared with other articles on the farm.

THE YOUNG BRAHMAS

Young Brahmas are fluffy and pretty when just out of the shells, but in a few weeks they seem to grow up on stilts, having an ungainly movement and an appearance which is not as attractive as may be desired. Usually the young Brahmas possessing a preponderance of leg feathering are males, but this is not always so. The darker the down the blacker the hackle and tail, so it is claimed, and the chicks that seem to feather slowly, and remain nearly naked until three fourths grown, usually have more feathers when matured than others.

They are very hardy, and are more easily reared than many other breeds of chicks, but in order to have them grow to their fullest size they must be fed liberally from the start. There is no necessity for feathers on the legs of any breed of fowls. On the contrary, the feathers are inconvenient in cold weather and when the yard or grounds are damp and muddy, yet the feathers on the legs make one of the requirements, and should extend to the ends of the outer toes. It would be much better if feathers on the legs of Brahmas could be bred away entirely, as it would be in their favor in many different ways.

While the young Brahmas grow tall at first, they fill out, and are more compact as they advance in growth, becoming well formed and attractive at maturity.

A SIMPLE PREVENTIVE

The roosts are sometimes the abode of lice when the vermin cannot be seen on the walls or other places. Wood tar has been suggested for application to the roosts, to destroy lice, as the under side of the roosts and cracks are excellent hiding places. The difficulty with tar is that it sticks to the hens, and is a nuisance to them, although it will surely keep lice away from the roosts. The better way is to dip a whitewash brush in a mixture composed of one gill of oil of tar, one pint of kerosene and one quart of crude petroleum. This mixture will destroy lice, and the odor is disagreeable to flies and other insects. A gill of crude carbolic acid added to the mixture will make an improvement.

While the majority of farmers and poultrymen are disposed to carefully search the poultry house for lice, the real effective enemies of poultry are the large lice on the body of the fowls, for they cannot be discovered without close examination of each bird.

COW PEAS AND SOY BEANS

Cow peas and soy beans are rich in nitrogen, and poultrymen can grow both crops to advantage, as the seeds may be stored for winter use and the vines fed to the cattle. As a forage crop for poultry all that is necessary to harvest it is to turn the fowls into the patch of cow peas or soy beans, and they will do the work, not missing many seeds. A separate crop should also be grown for winter, as the dry seeds may easily be flailed from the vines on a barn floor.

CAPONS

Have a place for capons, separate from other fowls, and keep them growing. It is not necessary to feed them so as to make them fat, but to keep them in a healthy condition.

If you have any culls, they may be used for practising the art of caponizing. It is best to receive instructions from some expert, but one may learn by practising first with a dead bird and then with a live one. Beginners should be careful to avoid cruelty, or causing unnecessary pain. If a mistake is made, kill the bird immediately, and examine it well, in order to avoid further mistakes.

VIGOR IN CHICKS

Dry food is the best for chicks after they are large enough to eat wheat or cracked corn, but they should not be forced in growth too rapidly, as leg weakness may thereby be induced. Leg weakness in chicks is largely the result of too much highly concentrated food and too little exercise; also, too much heat in the brooder often predisposes to that trouble, completely debilitating them, and crowding is at times one of the causes.

When chicks show symptoms of leg weakness give them fresh milk to drink, and feed them sparingly on millet and cracked wheat, scattered among chaff, compelling them to scratch for it. A little exercise that way, with plenty of green food, will stimulate the digestive organs and gradually strengthen the chicks.

LICE INDICATIONS

Many poultrymen do not seem to know when the bodies of the fowls contain lice. The small red mites, that swarm in millions, go from the roosts to the hens, but on the bodies may be other kinds, which give no indication of their presence, as they keep out of sight.

The fowls are so weakened by these pests that they are very susceptible to many ailments. Where chickens have been killed by lice, in many cases examinations have shown the gall duct of the liver very full, and in some instances in such condition was the liver that it could not properly perform its functions.

When chickens have vermin upon them their feathers usually look a little rough, eyes pale and sunken, and there is a line underneath the eye, which gives the bird a strange appearance, as if its beak were too long for its head and the wings too long for the body. The wing flights and horn of the beak grow, but the body seems to lose weight in proportion.

Even when the chicks appear strong and healthy it is well to catch one or two occasionally and examine them very closely. If there are the least signs of lice, the birds should be well dusted with insect powder, so as to destroy any that may exist. The fowls that have a large number of vermin upon them should be well dusted with insect powder twice, the second time from three to five days after the first dressing.

When dusting the chickens, lay a large sheet of paper upon the table, and place each bird on its back, then part the feathers and shake the powder well in, so that the whole of the skin is covered with it. Also, rub it well on the body and well into the feathers with the hand.

The advertised lice killers if painted on the roosts once or twice a week will be found excellent and sure remedies, but the odors are disagreeable to the fowls. For chicks use the insect powder first.

SUMMER POULTRY

When a farmer has a flock of fat fowls it will pay him to sell them in summer, as choice poultry usually brings fair prices if marketed in good condition. It is urged by those who make a specialty of market poultry that the fowls can be matured and sold in less time than a year, while it requires three or four years to produce a choice steer; that is, the farmer

can sell "three crops" of poultry during the same period of time required to secure but "one crop" of beef. In the production of chicks, if incubators are used, each incubator can be employed to hatch a dozen broods of chicks in one year, and "from shell to market" four broods of chicks can be reared on the same space in a year.

One advantage in keeping poultry is that while a farmer may not be in position to provide his beef from his own steers, for the use of his family, he has a home market for poultry on his table the entire year, and can avoid high prices for beef by substituting poultry in the place of the more expensive meat. In every section of the United States there are consumers who will take all poultry offered; but the consumption of poultry on the farms should also reduce the supply and increase the profit on those that are shipped away.

One of the causes of loss, when poultry is dressed for market, is the failure to give proper attention to the cooling of the carcasses. No farmer will kill a hog in summer and expect the carcass to keep well. The same difficulty arises with poultry, especially since some markets require the birds to be undrawn, and it is not always possible to cool the carcasses thoroughly. After the feathers have been removed, place the carcasses in ice water, and allow them to remain in the ice water from ten to twelve hours. The water will not only remove the animal heat, but also give each carcass a fresh appearance. If the market is near, pack the carcasses in ice, in barrels. Always ship dressed poultry by express. Take no chances with slow trains, for any attempt to save in transportation may cause loss.

If meat is the object rather than eggs, use only the best breeds for that purpose, such as Dorkings, Indian Games or Pit Games, which are not the best layers, comparatively, but are superior as producers of choice meat. As such breeds are not as hardy in some sections as desired, the males are used to advantage with hens of the Brahma, Cochin, Plymouth Rock, Langshan or Wyandotte breeds.

It is claimed that one hundred market fowls can be kept on one acre, making five hundred pounds of meat in one year, or two thousand pounds in four years, estimating each bird to weigh only five pounds, and the flock will also produce eggs, as many of the hens will mature when eight months old, even if of the large breeds.

It is not uncommon to find a flock of from fifty to one hundred hens on many farms; but in some instances the farmers are usually too busy to give attention to the flocks, yet a well-managed flock should add a fair profit to that realized in other directions. To be profitable they should receive attention; the eggs should be gathered daily; two or three hens should not (as is frequently the case) be allowed to sit on one nest; coops should be provided for the chickens as they are hatched, and they, as well as any other domestic animal, should be fed regularly.

DISTINGUISHING THE SEX

Breeders frequently ask how to distinguish the males and females of ducks and geese, especially of the white varieties. All the pure breeds of geese have both sexes alike in color. The surest method of distinguishing the male from the female, of all kinds of poultry, is by the voice.

Pinch a duck or goose and it will give a sound of dislike and betray itself. The male has a fine, squeaky voice, while the voice of the female is loud and coarse. The male guinea chatters, but the female makes the familiar repeated sound of "Joe Clark." The chicken hen cackles and the male crows. It is not usually difficult to distinguish adults, but whenever there is doubt, the voice is the surest indicator.

THE WHITE BREEDS

The color of the plumage does not in any manner affect the efficiency of a breed. It is, however, difficult to breed fowls of several colors true to "points." The white breeds of fowls are very popular with some because of being more easily bred true to color. The White Wyandottes and White Plymouth Rocks are popular white breeds, and to the inexperienced cannot be distinguished from each other.

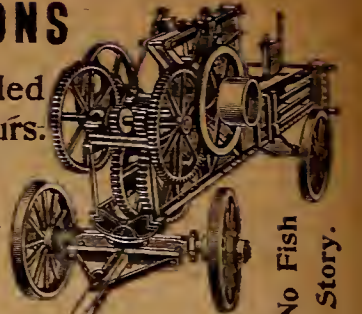
The White Wyandotte has the rose comb and the latter the single comb. They also differ somewhat in shape, the Wyandottes having short, compact bodies while the Plymouth Rocks are longer and slender. Both breeds are what may be termed "medium" in size. They are excellent layers, and also have yellow legs, which places them in the list of desirable market fowls. Breeds with white plumage are more easily dressed for market than other kinds, as the pin feathers do not disfigure the carcasses.

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BRANDING CALVES ON THE BAR TEE RANCH

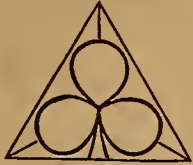
SOME of the habits of old-time ranching, when the cattle were wild and hard to manage, still hold in the newer régime.

The average ranchman who has handled cattle in the old days and ways thinks that when a little calf is to be branded it must be roped by a cowboy on horse-back and dragged into the corral and held down by some one sitting on its head.

The branding iron usually consists of a long rod of iron like a huge poker, and the brand is "run" on.

This way is the better, for it not only saves carrying about several irons, but a branding iron made with a device attached to a long handle is apt to blur at the joints. The iron becomes so much hotter in the angles of the letters or device.

The tenderfoot when he buys a ranch and decides upon a brand usually selects some artistic device, such as an ace of clubs in a triangle, thus:



Then he gleefully flourishes before cynical cowmen this beautiful brand he has had made. After he has used it a few times he records another simpler brand at the state house and takes the good old poker iron and "runs" it on. A brand such as the Bar Tee uses "runs" on thus:

A good cowman will cover the whole side of the calf with it, so he can see it a long ways off when riding.

After the poor calf has had the brand "run" on he must be ear marked. The Bar Tee uses a swallow-tail cut in each ear; a long, slim piece of the ear is sliced out.

When all the range was open cattle were rounded up every fall and driven to the home ranch. The beef steers were cut out and the calves branded, then they and their mothers and the rest except the beef steers were thrown into the fall or winter pasture.

Now a stockman who has only three or four hundred head rides among them every two or three weeks after they are turned out in the spring to open range. When the rider sees several calves have been born, he drives in a small bunch, including the calves and their mothers, to the home ranch. The little things are then branded and ear marked and turned back again with the bunch on the range, and they wander off perhaps six or eight miles, though fences now prevent their going too far.

The day of the great roundup and the ferocious cowboy is done for in Colorado. Barbed wire has done the work.

A. B. REEVES.

GROWING COLTS

There is no harder stock on the farm than young colts. Safe over the year of their foalhood, which is always a critical time, they appear to make up for past delicacy by hardening up and cheerfully consuming any spare herbage with profit and relish. Given only a grass field, with a little herbage thereon, no matter how poor the quality, these equines pick up a frugal living in open weather. As the grass goes off, and rigorous weather comes on, a rack of pea or bean straw to run to, which can be provided at insignificant cost, is all the extra that is asked for. So these profitable animals may be brought through their second and third winter at a minimum outlay. But there are novices at farming who pamper up the youngsters with both grain and hay, thereby giving what is not necessary, and committing an outlay which certainly is not justified.

W. R. GILBERT.

BRAN AND WHEAT

Wheat bran has for many years been a staple stock food with us. I have bought and used it more largely than any other cereal product for stock feeding, and made my mixtures for horses, cattle and even poultry in such a way as to contain a very large per cent of bran.

Ten or fifteen years ago we used to buy bran at our mills for ten or twelve dollars, and at one time even as low as eight dollars a ton. Undoubtedly bran is a safe food and provides the protein—blood and muscle-forming material—that is not found in the required proportion in most whole grains, especially in corn.

A Pennsylvania miller is reported to have said that his concern cannot furnish half the bran his customers want at twenty-five dollars a ton, and he cannot buy near all the wheat they want to sell him at seventy cents a bushel. I paid twenty-three dollars a ton for my last lot of bran, and can buy wheat at eighty cents a bushel. I could therefore buy a ton of wheat for but little more than what I have to pay for a ton of wheat bran. The Pennsylvania farmers near the mill mentioned actually pay more for

their bran than they get for their wheat, pound for pound.

A Western paper suggests that it might be advisable for them to feed a portion of their wheat ground for hay, as it would be better feed than bran and take much less of it, bulk for bulk.

The problem, however, is where to get the protein, and this problem is not solved by feeding whole wheat, ground or unground. Bran contains a somewhat large percentage of protein and a small proportion of starchy matter. I have increased the protein in my feed mixtures by adding oil meal; but even this has now become so high priced that I dislike to use it as freely as formerly. I would (at least during the summer) use cotton-seed meal, but I know of no place near here where it can be procured.

The solution of the problem must be found in the home production of crops that are rich in protein, especially of oats and peas, alfalfa, even common clovers, and in more southern localities of cow peas and perhaps soy beans. Farmers who have broad acres of various qualities of soil can and should make every effort to produce right at home all the protein they may need.

For four to six weeks during the summer, and maybe longer, oats and peas fed green or as early cured hay can be made to fill the bill, while a field of alfalfa will furnish the best kind of feed during the entire open season. Common clover is also a nearly balanced food, but not so rich as alfalfa. Alfalfa hay, in fact, is just about equal to bran, pound for pound, in feeding value. In bran prices we have about reached the limit of what any farmer can afford to pay.

T. G.

SOILING CROPS

J. G. B., Pennsylvania, writes me: "I read your articles on dairying in FARM AND FIRESIDE with interest. I have only a few years' experience in the cow business, and could ask many questions. I am practising the soiling method of feeding, and have trouble with looseness of the bowels in the cows. What effect would cotton-seed meal have on this trouble?"

"Which corn is more desirable for soiling—sweet or field corn?"

"I have trouble to get the cows to eat sweet corn fodder after it has died on the stalk. It seems to be more subject to mildew or blight."

"Cows fed soiling crops have frequent, radical changes of diet—from one crop that is growing too old for best results,

of cotton-seed meal usually places his estimate on its worth as a source of protein only, but it has come about, in our Eastern feeding especially, that corn commercially has taken price place away up in the ranks of the one-time more highly appreciated commercial by-products of the mills; hence, our corn carbohydrates, which the theoretical feeders, the paper dairymen, once held so cheaply, are no longer cheap in price, as they never actually were in the ration.

The careful feeder, therefore, in counting up the protein value of cotton-seed meal, will not ignore the carbohydrate contents.

But protein continues our expensive food element, and when the farmer has it in sufficient amount in the leguminous crops he is feeding, his supplemental additions of meal should logically be of those feeds carrying the largest and best supply of carbohydrates—and the greatest of these is corn.

Therefore, I would say to Mr. J. G. B., use cotton-seed meal with rye and timothy, sorghum and corn, but cornmeal when the soiling crops are of the clover and pea type.

Sugar corn as a soiling crop has the advantage over ordinary field corn, by reason of being ready to feed somewhat earlier, but in their seasons I would much prefer the field varieties, on account of their much heavier production.

If the ears of the sugar corn are allowed to remain on the stalk till their season of ripening, and the whole plant be then harvested into shocks for curing, I have always found the fodder cured very well. If the ears are removed, as is usually the case with sugar corn, the stalks should be cut and shocked in small shocks as soon as possible thereafter. Thus treated they will generally cure satisfactorily.

W. F. McSPARRAN.

VALUE OF THE SILO

My experience with the silo teaches me that no farmer, large or small, can well afford to be without one. Even those that have but a few head of stock will find it to their advantage to build a small silo. While it cannot be looked upon as the only essential element in successful farming, yet there are a number of distinct advantages to be gained from its use.

I find that by its use the entire corn crop can be taken from the field at a time when it contains the highest digestible food value, and stored away in such condition that all of these valuable food



BRANDING CALVES

to the next crop that is yet possibly too young. Careful feeding and watching of voidings are necessary at such times, and as a safeguard against digestive troubles incident to these radical changes it is best to always have part of the ration of some dried hay or fodder.

Of all the by-product concentrates there is none as good as cotton-seed meal for overcoming lax bowels. Feed not to exceed two pounds a day. This meal is highly nitrogenous, however, and in case the soiling crop is alfalfa, crimson clover, red clover or cow peas, a cotton-seed meal addition would make a very narrow ration.

My personal practise has been, when adding grain to the leguminous crops fed green, to make the grain cornmeal, thus supplying those nutrients in which the crops are lacking. It is true, however, but usually not taken into consideration, that cotton-seed meal, while carrying about five times as much digestible protein as corn, has also quite two thirds as much carbohydrates as corn. The buyer

contents will be consumed by the stock. Analysis shows that corn contains the most digestible matter just at its maturity, before it becomes dry and hard. Therefore, much of this matter is wasted in allowing it to dry out, which is the result of handling it in the usual way.

When the crop is cut and shocked in the field it must stand all kinds of weather, in which case there is a distinct loss, as a portion of it becomes unfit for feeding purposes. Then, again, when hauling the shocked corn from the field there is always a waste of fodder in loading and unloading. This may not seem to amount to much at the time, but in the course of several years it will amount to almost that of an entire crop. By the use of a silo these losses are avoided.

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Some one has said: "The bee that gets the honey doesn't hang around the hive." There is a whole lot in that, and it is just about as true of men as of bees. It is the hustler that "makes good." The fellow who works as long as there is work to do and then looks for more, who is "on the jump" every minute, is the successful man. Soft grass under a shady tree is mighty alluring in the summer, and a corner by the stove feels good in winter, but they don't produce much "honey."

THE "RURAL DEGENERACY CRY" IN NEW ENGLAND

Until quite recently all the evidences pointed to a pitiful decline in farming throughout New England. The expression "abandoned farm" came to be almost a complete characterization of the rural sections of these states. The call of the city had proved too alluring for the farmer and his family. Hence the decay of the country. But a change has come about during the past few years. Return to New England farms has become encouragingly noticeable and frequent. Within the past five years a remarkable demand for neglected farms has developed. In Maine and Massachusetts this is especially the case. In the former state in nine months in 1903 one man sold one hundred and twenty-six farms, and received over six thousand letters in one year regarding agricultural property. Western farmers seeking sites near market towns are leaving the West and coming to New England. There are today practically no more abandoned farms in Massachusetts. The "New England Magazine" has a hopeful paper on this subject by Mr. Edward A. Wright. Commenting on the desire of settlers to secure these properties, he says:

"This demand has continued without important interruption during the past five years, and is increasing quite generally in most parts of New England. The largest number of purchasers are included in two classes, widely different in character and purpose, but both of great value in improving the small town in which they locate. One of these classes is composed of city people who are establishing summer residences; the other includes those who, having more or less knowledge of agriculture, are seeking inexpensive lands for permanent occupancy and cultivation, a large proportion of them taking up light specialties, such as vegetable gardening, fruit culture, poultry raising, etc. Business consolidations and labor troubles are doing much to repopulate the hill towns, through their respective reductions in salary and enforced idleness.

"Light manufacturing and handicraft have turned to the country for opportunity, and many skilled city workmen have located in rural communities. Some of these own their homes and shops, and successfully carry on their business, surrounded by pleasant and most desirable social advantages. The moral tone of these hillside towns is unimpeachable.

Sobriety is fundamental and profanity rare."

On the subject of religious observance he has this to say: "In rural New England the church is the social center. In the average hill towns, as I have seen them, three fourths of the adult resident population are church members; nearly everybody is friendly to the church and contributes to its support, even if contributions are necessarily small."

"The country school is not decadent," says he. "The number of school buildings has decreased with the population, but a lowering of their educational standard has been prevented by the combined efforts of state and town. This is true of the average hill town. A feature quite generally adopted in recent years in localities where children live long distances from the schoolhouse is that of providing for their being carried to and from school at public expense.

"New Hampshire is deriving benefit from the 'old-home week' movement, instituted by Governor Rollins five years ago, and Massachusetts likewise from a similar endeavor. The modernized national and state boards of agriculture are helpful in reclaiming these farm towns. The arts-and-crafts settlements and city-country clubs have rendered service in improving the social and industrial conditions of New England's hill towns."

THE DISAPPEARING FORESTS

According to a circular recently issued by the Forest Service Bureau of the Department of Agriculture, the United States consumes every year between three and four times more wood than all the forests in the country grow in the meantime.

"The average acre of forest," says the circular, "lays up a store of only ten cubic feet annually, whereas it ought to be laying up at least thirty cubic feet in order to furnish the product taken out of it. Since 1880 more than 700,000,000,000 feet of timber have been cut for lumber alone.

"Two areas supplying timber have already reached and passed their maximum production—the Northeastern states in 1870 and the Lake states in 1890. To-day the Southern states, which cut yellow pine amounting to one third the total annual lumber cut of the country, are undoubtedly near their maximum. The Pacific states will soon take the ascendancy. The state of Washington within a few years has come to the front, and now ranks first of all individual states in volume of cut."

The inevitable result of this lavish consumption will be a timber famine, unless steps are promptly taken to prevent waste in use, increase the growth by a more general planting of trees, and place as large an area of the forests as possible under the protection of state and federal systems of forestry. Some countries in Europe preserve their forests and keep them permanently productive under a policy of government control and regulation, and the United States may be compelled by necessity to follow their example.

Against the enormous annual consumption of timber the total of individual efforts in the line of planting forest trees seems absolutely insignificant. Even the spring planting of over half a million trees by the Pennsylvania Railroad is only a splinter of what ought to be done to maintain the timber supply.

PRESIDENT ROOSEVELT ON RAILROAD INVESTMENTS

In his Memorial Day address at Indianapolis President Roosevelt considered at length the relations of the federal government to the great railroad systems of the country, with special reference to the interests of the conservative investing classes.

The following salient points from the address indicate the President's firm stand on the transportation questions of the day:

"Great social and industrial problems confront us, and their solution demands on our part unflinching courage, and yet a wise, good-natured self-restraint; so that on the one hand we shall neither be daunted by difficulties nor fooled by those who would seek to persuade us that the difficulties are insuperable, while on the other hand we are not misled into showing either rashness or vindictiveness. Let us try as a people to show the same qualities as we deal with the industrial and social problems of to-day that Abraham Lincoln showed when, with indomitable resolution, but with a kindliness, patience and common sense quite as remarkable, he faced four weary years of open war in front, of calumny, detraction and intrigue from behind, and at the end gave to his countrymen whom he had served so well the blood-bought gift of a race freed and a nation forever united.

"One great problem that we have before us is to preserve the rights of property; and these can only be preserved if we remember that they are in less jeopardy from the socialist and the anarchist than from the predatory man of wealth. It has become evident that to refuse to invoke the power of the nation to restrain the wrongs committed by the man of great wealth who does evil is not only to neglect the interests of the public, but is to neglect the interests of the man of means who acts honorably by his fellows. The power of the nation must be exerted to stop crimes of cunning no less than crimes of violence.

"There can be no halt in the course we have deliberately elected to pursue, the policy of asserting the right of the nation, so far as it has the power, to supervise and control the business use of wealth, especially in its corporate form.

"There must be vested in the federal government a full power of supervision and control over the railways doing interstate business; a power in many respects analogous to and as complete as that the government exercises over the national banks. It must possess the power to exercise supervision over the future issuance of stocks and bonds, either through a national incorporation (which I should prefer) or in some similar fashion, such supervision to include the frank publicity of everything which would be investors and the public at large have a right to know.

"The federal government will thus be able to prevent all overcapitalization in the future; to prevent any man hereafter from plundering others by loading railway properties with obligations and pocketing the money instead of spending it in improvements and in legitimate corporate purposes; and any man acting in such fashion should be held to a criminal accountability. It should be declared contrary to public policy henceforth to allow railroads to devote their capital to anything but the transportation business, certainly not to the hazards of speculation. For the very reason that we desire to favor the honest railroad manager, we should seek to discourage the activities of the man whose only concern with railroads is to manipulate their stocks. The business of railroad organization and management should be kept entirely distinct from investment or brokerage business, especially of the speculative type, and the credit and property of the corporation should be devoted to the extension and betterment of its railroads and to the development of the country naturally tributary to the lines. These principles are fundamental.

"Railroads should not be prohibited from acquiring connecting lines, by acquiring stocks, bonds or other securities of such lines; but it is already well settled

as contrary to public policy to allow railroads to acquire control over parallel and competing lines of transportation.

"The movement to regulate railways by law has come to stay. The people of this country have made up their minds—and wisely made up their minds—to exercise a closer control over all kinds of public-service corporations, including railways. Every honestly managed railway will gain and not lose by the policy. The men more anxious to manipulate stocks than to make the management of their roads efficient and honest are the only ones who have cause to oppose it.

"As a matter of course, we shall punish any criminal whom we can convict under the law; but we have no intention of confounding the innocent many and the guilty few by any ill-judged and sweeping scheme of vengeance. Our aim is primarily to prevent these abuses in the future. Wherever evildoers can be, they shall be brought to justice; and no criminal, high or low, whom we can reach will receive immunity. But the rights of innocent investors should not be jeopardized by legislation or executive action; we sanction no legislation which would fall heavily on them, instead of on the original wrongdoers or beneficiaries of the wrong.

"The great need of the hour, from the standpoint of the general public—of the producer, consumer and shipper alike—is the need for better transportation facilities, for additional tracks, additional terminals and improvements in the actual handling of the railroads; and all this with the least possible delay. Ample, safe and rapid transportation facilities are even more necessary than cheap transportation. The prime need is for the investment of money, which will provide better terminal facilities, additional track and a greater number of cars and locomotives, while at the same time securing, if possible, better wages and shorter hours for the employees. There must be just and reasonable regulation of rates, but any arbitrary and unthinking movement to cut them down may be equivalent to putting a complete stop to the effort to provide better transportation.

"It is urgently necessary at the present time, in order to relieve the existing congestion of business and to do away with the paralysis which threatens our expanding industries, because of limited and inefficient means of distribution, that our railway facilities should be so increased as to meet the imperative demands of our internal commerce. The want can be met only by private capital, and the vast expenditure necessary for such purpose will not be incurred unless private capital is afforded reasonable incentive and protection.

"It is therefore a prime necessity to allow investments in railway properties to earn a liberal return, a return sufficiently liberal to cover all risks. We cannot get an improved service unless the carriers of the country can sell their securities; and therefore nothing should be done unwarrantedly to impair their credit nor to decrease the value of their outstanding obligations.

"I emphatically believe that positive restraint should be imposed upon railway corporations, and that they should be required to meet positive obligations in the interest of the general public. I no less emphatically believe that in thus regulating and controlling the affairs of the railways it is necessary to recognize the need of an immense outlay of money from private sources, and the certainty that this will not be met without the assurance of sufficient reward to induce the necessary investment. It is plainly inadvisable for the government to undertake to direct the physical operation of the railways, save in wholly exceptional cases; and the supervision and control it exercises should be both entirely adequate to secure its ends, and yet no more harassing than is necessary to secure these ends."

Old Bill

BY EUGENE C. DOLSON

Old black horse, Bill, I have just been told
By one who came from the sale to-day,
Was brought from the pasture field and sold
At the Perrin homestead, over the way.

Struck off to a stranger, low and rough—
Unless his features the man belied—
Poor Bill! but your luck was hard enough
The morning your lifelong master died!

Joe Perrin, a man of quiet ways,
Was liked and honored for miles around;
A farmer and stockman all his days—
In colts and horses his thoughts were bound.

The Perrin boys had made it a rule
That Bill in winter of use must be;
By turns they rode him astride to school,
And then dismounting, would set him free.

I have seen old Bill, with his headgear on,
And red, checked blanket strapped to his back,
Come leisurely up the way alone,
And pass from sight on the homeward track.

Of Perrin's reverses soon we heard,
Of fortune lost in the space of a breath;
And next, to our sad surprise, came word,
Ere a week was gone, of his tragic death.

Last autumn Joe Perrin's farm was sold;
To-day his horses new masters find;
His wife and children their homestead old
For ever and ever must leave behind.

But I think the dear, dumb friend that shared
Their joy should still of their lot partake;
That this faithful horse might yet be spared
For their own, not less than for old Bill's sake.

A Unique American Writer

BY MORRIS WADE

JOAQUIN MILLER, the famous "poet of the Sierras," has said of his babyhood:

"My cradle was a covered wagon pointed west. I was born in a covered wagon, I am told, at or about the time it crossed the line dividing Indiana from Ohio, wherein my mother was born. Her people had come up from the Yadkin River Country, North Carolina, whither they had gone with the Boones from Berks County, Pennsylvania: devoted Quakers in quest of a newer land, where there might be less friction. My mother's people were Dutch, not Germans, as has been so often said, and they were of the oldest Dutch in the land—the Falls and the Witts, or de Witts, as they were called at home. They ferried the Ohio at Cincinnati, and ascending the hill, pitched their tents about where the university now stands; where the venerable Mrs. Fall died and was buried."

Only recently has the venerable-looking but not really aged Joaquin Miller written this account of his birth in the year 1841, so that he is now but sixty-six, although he has the appearance of a much older man. His father was a country school teacher in the days when the rough log schoolhouse was more in evidence than any other kind and the pay of teachers was very small, because everybody was poor and the scholars had to pay their own tuition, and they could not always pay it in cash. Cash was a mighty scarce article in the Ohio and Indiana of those days, particularly in the backwoods districts.

Then the family again packed their few poor possessions in the old wagon and were again "on the move." This time they were bound for what was called the Miami Reservation on the Massassinewa River. The elder Miller found a good "claim" on the banks of Cart Creek, and Joaquin Miller tells us that "The generous neighbors came from far about and opened a road, cut down trees, hewed logs with broad axes, and, as I remember it now, a house was built and covered with 'shakes' held in place by poles, for there were no nails, and a floor was laid as if we had had an Aladdin's lamp, so suddenly was it all done. Bed quilts and coverlids which my mother's own hands had pieced or woven were hung up for doors, greased paper was pasted up for windows, a fireplace of stones from the creek, with broad flat rocks for a hearth, and we were at home in our own house."

At less than six years of age Joaquin Miller, whose real name is Cincinattus Heine Miller, and a little brother were set to work to help clear the land around this primitive home, using hatchets and some tomahawks that had been given to them by some friendly Indians. But the poetic nature of the boy was not insensible to the wild beauty of his rude surroundings, and he writes of it: "The woods were fragrant with the glory of the Indian summer, a sea of indescribable color: a burning bush in every hand, and the Infinite visible in the minutest tawny fiber under foot or glittering leaf of gold overhead."

With the exception of the time he has spent abroad, the life of Joaquin Miller has been in a Western environment, and no poet has sung in loftier strains of the glories of the West than has this rugged poet of the West, who has always been



one of the unique figures in our American literati. For years his home has been on the heights back of Oakland in California. It has been said of Joaquin Miller that he is a living embodiment of his own poetry. Unlike any other poet of his day and generation, he is equally unlike other poets and other men in general in his personal traits and in his home. He is a man who has his own standards of life and dares to live up to them regardless of how others may live or of what they may say. It takes a man of a good deal of force of character to do this.

One of the interesting events of the poet's life in the wilderness is chronicled



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JOAQUIN MILLER

in one of the poet's early rhymes published in "Harper's Magazine." There were three little boys in the family, and the poet tells us that

We dwelt in the woods of the Tippecanoe,
In a lone, lost cabin, with never a view
Of the full day's sun for a whole year
through.
With strange-half tints through the russet
corn
We children were hurried one night. Next
morn
There was frost on the trees and a sprinkle
of snow,
And tracks in the ground. We burst through
the door
And a girl baby cried—and then we were
four.

The home of the poet of the Sierras consists of several detached houses almost hidden among the vines and flowers he loves so well. Here are the roses in such wild profusion that have made California so famous, and here are other flowers in the utmost profusion. When Henry Irving and Ellen Terry visited Joaquin Miller some years ago the whole pathway from the road to his little cottage home was covered with the choicest roses for their feet to tread upon.



"PUTTING IN THE TIME" WHEN AGE COMES ON

Like Mark Twain, Joaquin Miller does most of his writing while he is in bed. Often he does not rise until noon, and the rest of the day is spent out of doors. It is his idea that family life would be more harmonious and that there would be less friction if the various members of the family were not thrown into such constant contact with each other, and it is for this reason that the various members of his family have each a little house of his or her own. His favorite daughter, Miss Maud Miller, lives in the little cottage nearest his own.

On a hill near the poet's home is a solid stone mausoleum, or funeral pyre, eight feet high, ten feet long and ten feet broad. The poet has arranged to have his body cremated on this funeral pyre and the ashes scattered to the four winds of heaven. Near at hand is a great boulder, on which is engraved the words "To the Unknown," and upon the summit of another hill is a pyramid of stones dedicated to Browning, who with Tennyson and other poets in England paid Miller great honor when he was abroad twenty years ago. It is doubtful if we have a more unique figure in our American world of literature than Joaquin Miller.

Powdered Milk

BY H. H. HARBOUR

PERHAPS no fluid has been subjected to more experiments of all kinds than has the milk of the good old "bossy cow." It has been successfully "condensed" for years, and all sorts of attempts have been made to produce "patent milk" that could not be told from the genuine article, but these ventures have failed, and are likely to meet with still greater failure in the future because of our recent pure-food laws, that are making such havoc with inventors of substitute and adulterated foods of all kinds. At last, however, a process has been discovered by which milk can be reduced to a fine powder retaining every element of milk. The method of doing this is interesting, and is as follows:

The milk is fed in jets from a perforated supply tube, at a rate of from one to eighty to one hundred gallons an hour, upon two hollow steel cylinders five feet in length by thirty inches in diameter, revolving in opposite directions, about one sixteenth of an inch apart, from ten to fifteen turns a minute. These cylinders are heated by steam at a pressure of three atmospheres to a temperature of about two hundred and forty degrees Fahrenheit. The milk, oozing slowly through the narrow space, is taken up by adhesion to the heated surfaces, and passes around under the cylinders as a thin, almost invisible film of dried milk, having about the thickness of heavy paper. When three fifths of the cylinders' revolutions have been completed this white film of dried and sterilized milk is peeled off by a knife or scraper and falls into a receptacle, whence it is removed and passed through a coarse sieve, becoming a flour of milk, containing the exact qualities of the original liquid. Twenty-two gallons of full rich milk will yield about twenty-seven pounds of the meal, containing twenty-eight to thirty per cent of butter and a

full complement of casein, sugar and phosphates. The flour has about one seventh the weight of the milk from which it was condensed, and can be shipped in bags or boxes or canned for preservation. It will retain all of its taste and nutritive qualities indefinitely. When one wishes to reduce it back to liquid milk one has only to dissolve the milk flour in water heated to a temperature of one hundred and seventy degrees Fahrenheit. It then becomes milk absolute pure in quality, and it is claimed that only an expert could tell the difference between it and pure, fresh milk. It is not stated whether cream will rise on this milk, but this would appear doubtful. Unquestionably this is the most successful experiment yet made along the line of reducing milk to a powder or preserving it in any way in which it will retain all of its original constituents as well as its original taste and appearance.

There are none of the machines for the making of this milk flour in our country, but there are one hundred and forty of them in use in continental Europe and ten in Argentine. Eggs mixed with warm water can also be passed through the machines and thus converted into an egg flour containing all the nutritive qualities of perfectly fresh eggs. Most of us will, however, prefer our eggs and milk "straight," or as they were given to us by the faithful cow and the busy hen.

When Age Comes On

BY J. L. GRAFF

WHEN grandfather is no longer able to follow the furrow on his farm he is given light tasks like that shown in the accompanying picture, for the men who have tilled the soil all of long lives must do something or die.

It is interesting to find out what the veteran farmers, those who have left the farm to their sons and daughters, and have retired to the city for the remainder of their lives, do to put in the time.

One of the leading avenues in the little town of Polo, Ogle County, Illinois, is known as "Quality Hill." It has been so named, because the residences of retired farmers line each side of the street. They have left their farms to younger hands, and are now watching the sundown of their lives from city homes.

Most of these men spend the greater part of their time hunting something to do. They wander back and forth between the stores and their homes. Some of these men run their furnaces with wood as fuel, so that they will have something to split, something to break the monotony of an idle life after having toiled from the time they were boys.

What is said of Polo is true of hundreds of other towns of the Middle West. Most of the retired soil tillers worked their farms from the day they took it up from Uncle Sam, and most of them have been left when they were worth from one hundred and twenty-five dollars to one hundred and fifty dollars an acre.

The city homes that they occupy, in most instances, have been built after the plans formed by the ideas of the farmer and his wife. All of them are provided with every modern convenience.

Most of the farmers hold on to some little interest on the farm, that takes them back every day or two, and they keep on going as long as they are able to harness a horse and hook him to a buggy.

Old Times, Old Friends, Old Love

BY EUGENE FIELD

There are no days like the good old days,
The days when we were youthful!
When humankind were poor of mind
And speech and deeds were truthful;
Before a love for sordid gold
Became man's ruling passion,
And before each dame and maid became
Slave to the tyrant Fashion!

There are no girls like the good old girls—
Against the world I'd stake 'em!
As buxom and smart and clean of heart,
As the Lord knew how to make 'em!
They were rich in spirit and common sense,
And piety all supportin';
They could bake and brew, and had taught
school too,
And they made such likely courtin'!

There are no boys like the good old boys—
When we were boys together!
When the grass was sweet to the brown
bare feet,
That dimpled the laughing heather;
When the pewee sang to the summer dawn
Of the bee in the billowy clover,
Or down by the mill the whippoorwill
Echoed his night song over.

There is no love like the good old love—
The love that mother gave us!
We are old, old men, yet we pine again
For that precious grace God gave us!
So we dream and dream of the good old
times,
And our hearts grow tenderer, fonder,
As those dear old dreams bring soothing
gleams
Of heaven away off yonder.

The ladies of the farm will be interested in the offer made in the Housewife department this issue.



The Noncombatant

By
Albert Lathrop Lawrence



"I DARE SAY his talk suited you to a T," said J. Fananseer Welton, addressing his daughter between sips of his breakfast coffee. "He's pretty nearly a socialist himself."

"His talk hurt me, father," Maude declared, looking earnestly across the table into the florid face slightly bowed to meet the cup that was being quaffed. "You know I haven't felt right about our wealth for a long time. He set me to thinking still deeper. I'm almost ashamed of being so rich."

The millionaire set down the dainty piece of porcelain, and his lips thinned in a smile far from sympathetic with her views. "What would you do, daughter? Would you give our wealth away?"

"No; but you could prevent its increasing further. You could give the people water at its actual cost, and lower the gas rates. You might make three-cent fares on the cars."

"Run my business for the sole benefit of the public! No, I thank you. I'll leave that until it all comes into your possession." There was the hard note in his voice which hurt her. "You have never viewed the matter in the right light, daughter. A person really has but one talent. Mine is to make money." As he proceeded his tone became one of insincerity, the foil he used for her philanthropies. "David of old gathered wealth, and Solomon, coming after, builded the temple. If I amass riches and leave you to make the proper use of them—surely we have scriptural authority."

"If robbing Peter to pay Paul is scriptural—," she began with heretical intent. "But I don't believe it is!" she finished spiritedly.

"Robbing! Was that what young Mannington told your boys last night?" questioned the millionaire, his brow growing dark.

"He said he would be honest if every other man in the world was a thief and a liar," she returned, giving the keynote of the address she had listened to.

"M-m-m. A sentiment common to most men," her father commented dryly. "However, I am always suspicious of the man who blazes it from a platform. . . . So it seems he convinced you that your father is both a thief and a liar—"

"Poppa! I never said that. I wouldn't have another thing to do with him had he dared!" Her conscience might give her qualms regarding the wealth he had acquired, but another should not use such plain words. "And Mr. Mannington has really made me wish for another interview," she added.

"Mannington is a rising young man," mused the father, tapping his empty cup with a spoon. "Politicians of Olumbia will have to reckon with him in the future. It seems to me an interview might be arranged, though it would be rather turning the tables on him. Indeed, I have a feeling that it would be worth while to know him myself. I have been thinking of a dinner for the press for some time. That would include him. What do you say, daughter?"

"Certainly, if you wish it," she hastened with beaming face, for in the light of their differences it was as if he had suddenly come upon her ground. The next moment he spoiled it all.

"But don't be too sure of his disinterested high-mindedness, daughter. Ten to one he's like the others: out for all the money there is in it."

"Poppa!" she reproached. "You make me feel there isn't an honest man in the world—"

Welton had risen from his breakfast now. "Do I? In spite of Mannington's assurance that he is

one, if the last one?" he interjected with a return to his insincerity. Then with something like regret for hurting her feelings, "Don't you see, daughter, I'm only playing?"

"But I wish you wouldn't, father," she protested, realizing all too well that this play reflected the working opinion of his mind.

"Well, we'll give that dinner anyway," he added with an air of terminating the subject. "I really must make Mannington's acquaintance." Then to the butler, "Mason, you ordered the carriage?"

"Yes, sir."

Father and daughter passed into the hall, where he arrayed himself for the street. "You'll need this; the air is cold this morning." She placed a scarf about his neck, and looked further to his comfort. He turned to take the kiss she always gave at parting, and then left, his brow already knotted with the problem that was to be his masterpiece in business. Maude moved to the window and watched his broad shoulders go down the walk to the carriage in waiting.

"I will be honest though every other man be a thief and a liar," came Grant Mannington's voice of the night before. She saw his clean, clear-cut, strong, manly features again as when he gave the words to be a guiding principle to her boys gathered in the chapel she had erected. Fearlessly calling the names of millionaires and money kings who had crowded their weaker fellows to the wall, cravenly begging or unscrupulously forcing special privileges, shamelessly buying public offices and places of trust, perjuring themselves in the courts of our land—with such statements he had wrenched the seam already wide in the daughter's heart.

"Building costly churches, erecting libraries, endowing universities, will not remove the stain from such characters," he had declared. "Rather be the man with the shabby coat and a record true to himself and his native land than the man with millions stolen in the night of our ignorance, his trail hidden under a mass of false statement. Our nation's heroes were poor men. Be a hero. Be an honorable citizen. And when called to a public office, be faithful to your trust. Let there be no Benedict Arnolds in our city councils, in our legislative halls and executive offices when you fill them. Be honest though every other man be a thief and a liar!"

The carriage door closed with a bang upon the father, and the wheels rolled

him away, leaving the daughter with a strange impression that he was gone to do battle with the man who had so deeply moved her.

II.

OLUMBIA was no more metropolitan than an orangutan is a man, but it had early stood on its feet and aped the great centers of life. Its society women read the New York fashions and gave pink teas; its moneyed men studied the Wall Street generals and played their lesser campaigns accordingly; its politicians schemed to bring about a little Tammany that should be as subservient and powerful in its minor field as the great machine among its teeming millions.

The first Welton, a modest, hard-working blacksmith, had come when the place was but a village; had started a machine shop and made money; had manufactured farm implements and made more money. He had taken pride in the growing town, where he knew everybody and everybody knew him. He erected a gas plant when it would not net him two per cent on his investment. But what cared he? He was a big boy, and there was joy and satisfaction in spinning his fifty-thousand-dollar top. When his fellow-citizens wanted a general water system he gave it them, and when the electric light became practical he wired their streets and placed the magic buttons in their houses. Olumbia grew, and these things became profitable when he had no more thought of profits in the adventure than he had in rearing his son.

Johnnie went to school and beat his fellows at prisoner's base; he went to college and led his eleven to victory on the gridiron. The love of doing things swelled in him, and he came home to give his father points about his business. Here was a new game in which victory was measured in dollars and cents, and not in the cordial handshake and brotherly esteem that had satisfied the father.

When the old man's wealth fell into the young man's hands Olumbia felt the change—but not until the halter had been fastened about its neck. There was a sentiment that the father had made the town, and for the first few years nothing was too good for the son. Simply for the asking he obtained franchises running a third of a century, giving him a monopoly of the public utilities—heating, lighting, water and street-car service.

Once he had styled himself simply John, but now he became J. Fananseer Welton, though a few of his early friends had no more reverence for his dollars than still to call him Jack.

At thirty he married the banker's daughter, and so doubled the wealth within his control. To them was born a blue-eyed, flaxen-haired girl, who grew tall and robust in the outdoor life that had become the fashion. Though a bitter disappointment that no son ever came, the father found a measure of solace in the affection Maude gave him, and in the companionship of her well-trained mind.

After the death of her mother, to fit herself more particularly for his needs Maude began the study of economics, which had led to those disquieting notions regarding their wealth. It amused the father when she first asked to be instructed regarding their affairs, and he had humored her even after perceiving ideals not in keeping with his business models. An estate—her mother's increased tenfold—was Maude's to direct if she insisted. Thus far filial regard had left the father in undivided control, but this regard was his only guarantee of the future. At times her independent views caused him misgivings, but she had not acted on them except to spend sums he freely gave in her charities. Their wealth was so bound together it would ruin his cherished plan to divide it; indeed, his game now was to keep it intact through all time, in hope of building a colossal fortune.

"That editorial, 'Parks in the Poor Quarters,' was your writing, was it not, Mr. Mannington? I felt like saying 'amen' to every word."

Maude spoke low to the man by her side when the hum of voices at the table permitted personal conversation. It was the dinner her father had urged, and pressed two names on her for invitations—one, Mannington of the "Advance," and the other, Anton of the "Recorder." The affair was calculated to further some business scheme of his, as she guessed, but it gave her an opportunity to meet again the man whose spoken and written words so clearly echoed her own ideas. She had chosen him, as her father had planned, to accompany her in leading out their guests, while he had taken Mrs. Anton, and so directly and indirectly marking the press for special honors.

Grant Mannington had been charmed by Maude's manner the night he addressed her boys; now he abandoned everything to her beauty, feeling such a thrill as he had not before in all the thirty-five years of his life. He had come out of the country a poor boy to learn the printer's trade in the very office where he was now chief. Years of upward struggle had given him no time for social enjoyment; but now, a long-coveted position won, he could turn aside into the rose garden that opened to him. As he met the clear blue eyes of Maude Welton he felt something wrong in his radical denunciation of the rich. There could be no doubt of her sympathy for the masses; how perfectly she understood his argument, agreeing in every detail of his plea for the poor.

"Oh, the rich are so selfish!" she cried.

"Not all, I am sure," he interjected, looking into her animated face.

She scarcely heeded his words. "I am almost ashamed of the dinner we gave to-night when I remember there are men and women and children—little children—in our city who have scarcely enough to keep soul and body together. Oh, I wish



"'Liberties fiddlesticks! He's working to get you and all the money I'll give him'"

I were a man and could do something—as you are doing in your paper! But I seem forced to be a non-combatant!"

To wish her other than what she was would ever remain his farthest thought. "Indeed, Miss Welton, you have no cause to reproach yourself," he said. "In your boys' mission you are doing a grand work." If his poor efforts had amounted to anything in the past, he had gathered new incentive from her words to-night. He told her so.

She gave his face a searching glance, to make sure it was not the common flattery. "Oh, then I am justified," she breathed with relief. "I had hoped it might be so. My conscience often troubles me because I do not do more—or different—with my own. I could be a nurse on the field of battle. I should not faint at the sight of blood. But when it comes to standing up and boldly asserting—demanding—disappointing and hurting those one loves—" She stopped suddenly, becoming scarlet in confusion. A feeling of disloyalty to her father seemed strangling her. She had yielded to an impulse to show Mannington something of her peculiar situation, hoping it would meet his sympathy; but now she prayed he might not understand.

"Daughter, what do you think of Mr. Anton's idea?" the millionaire called down the table. The question followed so closely on her confusion that most mistook it for cause and effect. Mannington knew different, but failed to guess the truth.

"I beg your pardon," Maude said to the editor of the "Recorder." "I did not hear."

"Why, it was this," said her father, not trusting Anton to repeat the idea he had ascribed to him. "The people know I have several good things in Oumbia." He put

it with becoming modesty. "There is some demand for municipal ownership of public utilities"—with a glance toward Mannington; "but there are objections to that." A nod of his shapely head promised to give these objections presently. "However, the people have a right to share in the profits they create. A union of all the irons I have in the fire—say a reorganized stock company, in which all may have a chance to invest. Anton tells me that would be the right thing."

"It could be made very popular," Anton took up the matter. "The workingmen could invest their savings; even the children might be allowed stock for the pennies in their little banks."

Maude was carried away with the idea; in fancy she already saw herself restoring her wealth to the poor. But how had her father become a convert? What did Mr. Mannington think of it? The question was in her eyes as she turned toward the "Advance" editor. Others seemed waiting for his opinion, too.

"It would be very popular, no doubt," he began with judicial coldness.

"Oh, it would be lovely, I am sure," Maude interjected warmly.

"I should like to consider the matter further before expressing an opinion," Mannington added. He was the guest of this man; and the scheme was his, not Anton's. It would not do to attack it then.

Maude was provoked at his coldness, and told her father so next morning when they talked the matter over at breakfast, the hour usually devoted to such topics.

"Oh, these reformers are a jealous lot, and ready to frown on any scheme not their own," the millionaire said; and this was accepted by the daughter for a time.

But when the Consolidated Utilities of Oumbia was given a charter by the state, Mannington's paper began to ask some very pregnant questions. At what figure did the owners of the franchises then in force propose to place their stock in turning it over to the new corporation? These franchises had but three years to run; did the council propose for a song to sell Oumbia out for another third of a century? It might be true that the people would have a chance to invest, but in what—water? Maude gave a little gasp as she perceived the real intent of her father's plan.

After that dinner given as a sop to the press, Maude and Mannington had met frequently in society, and it was presently noted that the two gravitated together on these occasions. Maude had never forgotten the fervid words he addressed to her boys the night she first met him. She was a careful reader of his paper, and an impression took form in her mind giving him the embodiment of all virtue.

The "Advance" was stirring the people up to the need of honest, capable men in their city government. A reform party was talked of; and on the street Welton heard Mannington named as the probable candidate for mayor. Taking into account the growing intimacy between Maude and this man, the millionaire was tempted to believe, on the whole, such a campaign would help his scheme. He had made it a point to see Mannington often, and always to hint of the good thing he might in a certain event do for himself. Meeting neither encouragement nor rebuff in these insinuations, Welton came to believe the editor was playing a shrewd game, but one he was himself pastmaster in winning.

"Everything seems to be getting down

to a business basis in this country," Welton remarked to his daughter a day or two before the election. "And I'm not sure but the sooner it gets there quite the better it will be for all. A democracy is an unwieldy thing. A few must rule—there must be one brain to run things or all will go to smash. A's business is pork; B's is politics; if either can get a corner he makes all the money out of the situation he can. I admire Mannington's skill, for it strikes me he is working for a pretty big stake."

"Indeed he is; the biggest stake. He told me so only yesterday," returned Maude in a glow of enthusiasm. "The liberties of the people he called it."

"Liberties fiddlesticks! He's working to get you and all the money I'll give him."

"Poppa!" cried the girl, starting to her feet. "Poppa!" she repeated in breathless surprise and indignation. "If another man had said that I should call him insulting!" Her face burned as he had never seen it before.

"Tut, tut, daughter. I meant nothing of the kind. Mannington's a nice fellow. I don't know a nicer. Didn't I say I admired his skill?"

"Skill? Oh, father! duplicity is the name for what you have in mind! If he is what you think—he is a traitor, a traitor! But I won't believe it!" Filled with shame in the position suddenly forced upon her, she turned and fled from the room. She had begun to feel that a certain early estimate of her father was wrong, and now he had spoken words which not only convicted himself, but inferred a willingness to use her to bribe the man whom she had learned to love and look upon as the soul of honor.

[TO BE CONCLUDED NEXT ISSUE.]

A Ready-Made City

ONE of the most remarkably constructed cities in the world is that of Nairobi, the capital of the British East Africa Protectorate. Britishers have nicknamed it "the ready-made city," also "the zinc city," either of which would be seemingly appropriate. It is claimed that there is not a building of wooden construction in the whole city, but every building is made of galvanized iron, which was shipped there from Europe in sheets ready to be fastened to form the walls, roofs and partitions.

In December last its population consisted of 4,652 persons, of whom 162 were Europeans.

In those long rows of galvanized-iron buildings are two Christian churches.

This is a city of the subordinates. The officials, or superior functionaries, have their pretty cottages on the neighboring elevations, with gardens, tennis courts and polo grounds, while the subordinates live in the lowlands.

A Unique Epitaph

INTERESTED in a recent sketch published in FARM AND FIRESIDE about President and Mrs. Jackson, Mr. Samuel Welch sends us a copy of the inscriptions on the tombstones:

GENERAL ANDREW JACKSON

Born

March 15th, 1776,

Died

June 8th, 1845.

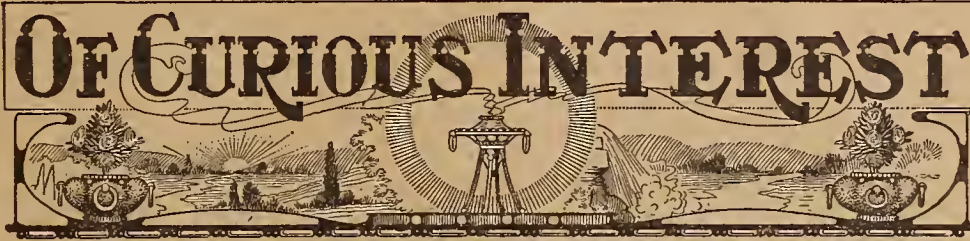
The inscription on the tomb of Mrs. Jackson is as follows:

"Here lies the remains of Mrs. Rachel Jackson, wife of President Jackson, who died the twenty second of December, 1828, aged 61 years. Her face was fair, her person pleasing, her temper amiable and her heart kind. She delighted in relieving the wants of her fellow-creatures, and cultivated that divine pleasure by the most liberal and unpretending methods. To the poor she was a benefactor. To the rich an example. To the wretched a comforter. To the prosperous an ornament. Her piety went hand in hand with her benevolence, and she thanked her Creator for being permitted to do good. A being so gentle and yet so virtuous, slander might wound, but could not dishonor. Even Death, when he tore her from the arms of her husband, could but transport her to the bosom of her God."

The First Dancers

PEOPLE have danced for thousands of years, and will probably continue to do so for ages to come. This custom is of ancient origin. The first people to dance were the Curetes, who adopted dancing as a mark of rejoicing in 1543 B.C.

In early times the Greeks combined dancing with the drama, and in 22 B.C. pantomimic dances were introduced on the Roman stage. At the discovery of America, the American Indians were holding their religious, martial and social dances.



Millions for Headgear

UPWARD of fifty million dollars for hats and flowers, feathers and miscellaneous trimmings are left each season by foreign houses with the Paris milliners. In Paris alone twelve thousand women are engaged in making silk and velvet blossoms, while more than ten thousand are curling and dying plumes. Thousands are also engaged in making artificial feathers. These last are intended for cheap trade. It can hardly be realized by Americans that Paris will trim hats for export at a figure as low as two dollars and fifty cents a dozen. Of course this is one extreme. The other is one hundred to one hundred and fifty dollars for one of Caroline Reboeuf's creations, a bonnet from Felix or a chapeau from Madame Ode's or Virot's.

Surprises of Travel

THERE are no onions in Bermuda for the visitor. They are all exported, states the "Travel Magazine."

No tobacco is grown in Egypt. The khedive has forbidden its cultivation.

There are no olive trees on the Mount of Olives. The Turks and tourists have destroyed them.

The French do not eat frogs. The Parisian restaurants may be searched for days without finding a single frog.

Irish whisky is drunk in Scotland and Scotch whisky in Dublin.

The Holland cheese is seldom seen at The Hague and Neufchatel cheese is made in New York.

Kansas City is in Missouri.

The chief justice of the supreme court of Egypt is a citizen of the state of Florida, and the head of the anti-Armennian party in the Turkish Empire is an Armenian.

Emperor William's Salary

"WHAT salary does the Emperor of Germany get?" asked a Washington "Herald" reporter of Dr. Ernest Bickler, of Berlin, at the Raleigh.

"Not a cent as German emperor. His emoluments all come to him as King of Prussia, and his yearly revenue is a very

handsome sum, but the amount is one of the state secrets. The fact of his being at the head of the German empire does not better the king to the extent of a dollar, though there is a certain amount given him to be used, only, however, for charitable purposes. All of his many castles and estates were his inheritance as King of Prussia, and would have been his anyway if the consolidation of the empire had never been effected. He is an enormously rich man and manages his great interests with good business ability."

Bank Notes Three Thousand Years Old

WHAT are said to be the oldest bank notes in the world are the "flying money" first issued in China in 2897 B.C. One writer tells that the ancient Chinese bank notes were in many respects similar to those of the present day, bearing the name of the bank, the date of issue, the number of the note, the signature of the official who issued it, and its value, in both figures and words. On the top of these curious notes was the following philosophic injunction: "Produce all you can; spend with economy." The note was printed in blue ink on paper made from the fiber of the mulberry tree. One of these notes, bearing the date of 1390 B.C., is still preserved in the Asiatic Museum at St. Petersburg.

National Flowers

WHILE the United States has no national flower, yet many of the states have by common consent adopted flowers.

The fleur-de-lis is the emblem of gay France.

The violet is the national flower of Athens.

The sugar maple is the national emblem of Canada.

The shamrock is emblematic of the Emerald Isle.

The linden is the national emblem of Prussia.

England's national flower is the rose.

Italy's emblem is the lily.

Germany's emblem is the corn flower.

The leek is the emblem of Wales; and the thistle of Scotland.

The things that give the most pleasure in life frequently can also cause the



A CITY MADE OF GALVANIZED IRON

greatest pain, comments the "Sunday Magazine." Among flowers, for instance, the beautiful snowdrop, the hyacinth, jonquil and narcissus are all poisonous, and to eat the smallest part of the root of either of them would produce fatal results, while the juices of the leaves will cause violent vomiting.

The berries of the yew tree have killed many people, and the opium obtained from poppies has also claimed its victims. Lady's slipper and lily of the valley are both dangerous, and if the blossoms of crocus are chewed they will cause vomiting. Flowers from bulbous roots, however, seem to be the most dangerous, and it might not be out of place to dealers in these to label them with a crossbones and mark them poison.

Queer Curacao

THE little island of Curaçao, about sixty miles north of Venezuela, and which was indelibly stamped upon the minds of Americans when Admiral Cervera's Spanish fleet stopped there on its way across during the Spanish-American War, is a queer and one of the most remarkable islands in the Caribbean Sea. It is about sixty miles long and about fourteen wide, and has a population of fifty thousand. Strange as it may seem to us, there are no means of procuring fresh water on the island except by saving rain water. Of the number of wells that have been sunk by the Dutch government, to which the island belongs, failure has followed in each instance.

A curious statement regarding these borings is made by the inhabitants of the island. They say that in each and every case after a certain depth was reached the tools dropped out of sight, indicating that there is no solid foundation to the island.

The borings were made in low places and through hills, and in about thirty different places, each with the same ultimate result. A few wells have been dug to a lesser depth, and brackish, unpleasant-tasting water is obtained from them, fit only for manufacturing purposes.

The approach of the rainy season is always an interesting time there. The water in the reservoir is low at this time, and the natives eagerly await the opportunity to gather a fresh supply.

Three fourths of the population is of African descent, or mixed African, Spanish, Dutch and Indian.

Their sole business in these days seems to be the peddling of lottery tickets. Everybody invests in the lottery there, and as there are drawings each day the peddling of the tickets forms quite a paying business.

Some of the Africans there are magnificently formed, especially those employed along the lagoon in loading and unloading steamers and ships. They are at home in the water and will dive under a steamer for a ten-cent piece.

Of late years they are forced to wear suits while sporting in the lagoon near the settlements, but as the lagoon extends in the center of the island several miles each way, they may be seen every evening making their way in punts to a point beyond observation where they can enjoy themselves untrammelled by clothing.

Cheating the Children

BY HILDA RICHMOND

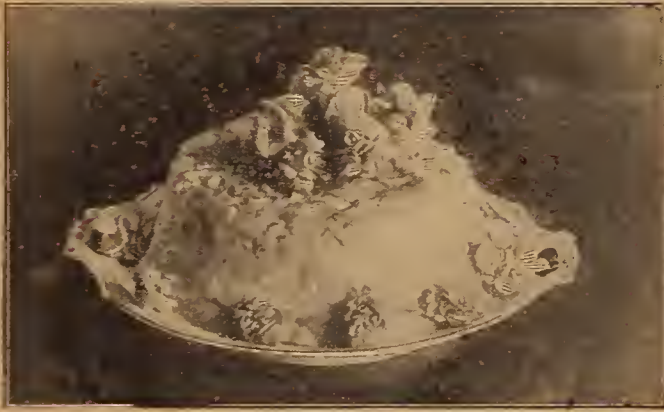
TWO BABIES clung to her skirts as she hurried about the disorderly kitchen, this forlorn young mother, trying to prepare a dinner for her family. At intervals she set soggy bread, inferior butter and a dish of sauce on the mussy table, and when her husband came in from the field he had hard work finding anything eatable in the stuff set before him.

"Mother never taught me when I was at home," she explained to the visitor, "and I am trying to learn cooking now. She always said it was easier to do the work herself than to be bothered with us children, but I wish she had bothered a little." This young woman could play the piano, could do lovely fancy work and was well educated, but as a housekeeper she was without doubt a total failure.

Her mother was a woman of "faculty," as Katy Scudder puts it, and she could not bear to have her neat arrangements thrown into confusion by childish hands. She was afraid her daughters might break the dishes, and she knew they would splash her shining stove if she allowed them to cook, so they never had a chance to help in the kitchen. It is trying to a neat housewife to watch a child muss and play and daub at cooking, but in time the little hands will become expert, and the dishes will cease to be in danger, as the child worker stands proudly on a box to fish them out of her soapy sea of dish water. Little girls love to cook simple things if the whole family unite in praising their efforts. The children are bound to spill and get a lot of spoons and dishes soiled in their first attempts, but in time all those errors can be corrected. Better the trouble when the child is at home than years of worry and disaster when she has her own children to look after later in life.

A young girl was left alone with her mother, and the latter suddenly grew very ill. In the midst of her pain she gasped out that the daughter should get her something hot, but to be careful of the kitchen carpet. The inexperienced girl of fifteen ran quickly to the home of a neighbor, but found no one at home except a boy younger than herself. She sobbed out her troubles to him, and the lad went home with her. In a few minutes he had a quick fire, and made a cup of hot tea for the suffering woman. Then he proceeded to wrap a stove lid in newspapers and an old cloth for her, and otherwise make her comfortable. He gave a look of contempt at the helpless crying girl, but relented enough to fry some eggs for her breakfast and give her sensible directions about how to manage. The kitchen carpet did not suffer, and the woman found out from the well-trained lad how remiss she had been in her duty. The boy's mother had carefully trained her girls and boys to be of use in emergencies, and all mothers should do the same.

Instead of speaking about the drudgery of housework, the mother ought to impress upon her boys and girls



EMPRESS CAKE—Cream one cupful of butter, add slowly two cupfuls of fine sugar, and beat; add one half cupful of cornstarch to two and one half cupfuls of pastry flour, then add alternately to the butter with one cupful of milk; beat until smooth, add stiffly beaten whites of eight eggs, two teaspoonfuls of baking powder, and bake in loaf with tube. Ice with boiled icing flavored with one half teaspoonful of vanilla and one half teaspoonful of violet, putting icing on roughly. Place a bunch of violets in the center and a careless wreath about the base of cake.

that it is a disgrace to be helpless in a kitchen. The boys should be encouraged to cook their own fish when they get home from a little expedition to the brook, and in winter to prepare the rabbits and squirrels and game they bring in. It is rather annoying to have taffy and fudge on the tables and floor when the little people want to make candy, but they should have some privileges in the kitchen. Many a mother cheats her children of their dearest joys by forever telling them she "does not want them under foot" when she is cooking. The cloudy dough cake with a few raisins sprinkled here and there, the doubtful pie in the patty pan and the wonderful loaf of bread proudly made by childish hands are the beginnings of greater things if the mother is wise and helpful. There are girls of ten and twelve, and boys, too, who can fry eggs, bake potatoes, make simple biscuits and get up enough food to satisfy hungry people without making the kitchen hopelessly out of order. From babyhood they have been "under foot" in the kitchen on rainy or stormy days, and the mothers are now reaping their reward in the assistance the young people gladly and proudly give them.

Children despise to be perpetually kept at chores. Some mothers think they have done their whole duty at training their sons and daughters when they provide them with work that takes no thought whatever. They put them at carrying and cleaning and tinkering all their working hours, and never allow them the privilege of really making a cake or garment. Suppose they do waste a little. All beginners have to learn by experience, and the wasted cake or loaf of bread will help the young learners to better things. One wise mother always takes pains to speak of the things her children do when company is entertained. "Molly made that cake," or "These are John's popcorn balls," comes to her lips readily when the guests speak of the articles. Suppose Molly only brought the sugar and flour to her mother and had done the chores for the



cake baking, while John raised the corn, but was not allowed to pop it, for fear he would make a muss. Would their hearts swell with pride when visitors spoke of the good cake and popcorn balls? Of course not. Mothers, don't cheat your boys and girls if you want them to be useful men and women.

Recipes for Canning Vegetables

RIPE TOMATO PRESERVES—Select nice smooth fruit; scald and peel, taking each one in the hand, and press out the pulp and seeds. To each pound of fruit add an equal weight of sugar and half a sliced lemon. Put in a kettle and simmer four or five hours, or until both fruit and sirup are thick and clear.



POTATOES WITH CHEESE—Put one-fourth-inch slices of pared, boiled potatoes in a deep baking dish with pepper and salt, cover with sweet cream; place a layer of grated, rich American cheese on top; bake twenty-five minutes in moderate oven; garnish with sliced cucumbers.

CANNED TOMATOES—Peel ripe tomatoes without scalding; if large cut in two, but add no water; put them in preserving kettle on the back of range until the juice starts, being careful to not scorch them. Add a pinch of salt, if liked, but they taste fresher without, and are not so sour. Do not cook until mushy, but let them boil about five minutes after reaching the boiling point. Then seal, being sure rubbers are new and caps air proof.

TOMATO CATCHUP—Scald and peel half a bushel of ripe tomatoes, and slice them into a porcelain kettle. Add one half ounce each of whole cloves and cayenne pepper, two ounces of allspice, one half teaspoonful of black pepper, and two and one half ounces of mustard seed. Boil slowly three hours, stirring occasionally, to prevent burning. Then strain, add one cupful each of salt and sugar and one quart of vinegar. Boil one hour, strain again, and bottle for use.

TOMATO PICKLES—Mix one gallon of chopped cabbage, one gallon of sliced green tomatoes and one quart of sliced onions together at night, and salt well (using nearly one teacupful to the above). The next morning drain, put in a kettle, add one tablespoonful each of pepper, cloves, spice and cinnamon bark and two cupfuls of sugar. Cover with vinegar and boil thirty minutes. Chopped apples may be substituted for the onions if they are not wanted.

CANNED CORN AND TOMATOES—Prepare the tomatoes the same as for canning by themselves. To each quart of tomatoes add one pint of cut-off corn and a pinch of salt, and cook until the corn is done, then seal.

CHILI SAUCE—Chop twelve onions, eight green peppers and thirty ripe tomatoes after removing the skins. Mix all together, add five tablespoonfuls of salt and twelve of sugar, with ten cupfuls of vinegar. Boil slowly two hours, taking care it does not burn. Seal in bottles or jars.

MUSTARD PICKLES—Take small cucumbers, wash carefully, and fill the jars. Mix thoroughly one half cupful of salt and one half cupful of ground mustard with one gallon of vinegar, all cold, and fill the jars (already packed with the cucumbers) to the brim, and seal. These keep nice and crisp all winter.

PICCALILLI—Slice or chop one peck of green tomatoes, and sprinkle with one cupful of salt. The next morning drain off the liquid, put the tomatoes in a preserving kettle, add three green peppers, one small head of cabbage chopped fine, one tablespoonful each of cloves, spice, cinnamon and white mustard seed, one cupful of brown sugar, and vinegar to cover. Boil thirty minutes and seal while hot.

CANNED STRING BEANS—Select young tender pods; string and break, cook thirty minutes, place in the can,

and cover with the water in which the beans were cooked. Let settle a few moments, then add one tablespoonful of vinegar to each quart jar just before sealing. To prepare for the table, drain off the liquid, put on fresh, to cook them, and season as usual.

PUMPKIN BUTTER—Boil six gallons of pure apple cider until reduced to three gallons, then add eight quarts of cooked pumpkin to the boiling cider, stirring constantly to prevent burning. When smooth add sugar and spice to suit the taste, and cook one hour longer. It may be made without cider, if unobtainable, but it is not so good.

TO DRY BEANS—Prepare as for table use, cook in slightly salted water until tender, drain, then spread on a cloth to dry in the sun. When wanted for use, soak over night in cold water, and cook until tender.

TO DRY ROASTING EARS—Boil on the cob until done, then cut off the whole grains and spread out on a cloth in the sun to dry. Prepare for table use the same as beans.

WATERMELON PRESERVES—Peel and cut eight pounds of rinds, and soak twenty-four hours in water enough to cover, in which has been dissolved three tablespoonfuls of salt; then soak in alum water (same quantity as above), then in fresh water for twenty-four hours. Take one ounce of white ginger root and one and one half gallons of water, and boil the fruit in this until tender enough to pierce with a straw, then boil in a sirup of seven pounds of sugar until transparent. Season with cinnamon.

SWEET CUCUMBER PICKLES—Take slicing cucumbers (six will make a quart), slice in a crock, salt, and let stand over night. In the morning drain thoroughly, put one quart of vinegar, one pint of sugar and one tablespoonful each of spice, cinnamon and cloves in a kettle, and when it boils drop in the fruit. Boil thirty minutes, and seal.

PRESERVED VINE PEACHES—Peel, halve and remove the seeds. To each pound of fruit allow one pound of sugar. Sprinkle sugar over the fruit, and let stand over night. In the morning pour off the juice into a preserving kettle, and let it come to a boil, then drop in the fruit, and cook until a fork will pierce them readily. Take out carefully and place in jars. Let the sirup boil a few moments longer, then skim, and pour over the fruit. Seal closely. A lemon to each half gallon of fruit improves the flavor of the preserves or the canned vine peaches.

MRS. D. B. PHILLIPS.

Some Secrets of Jelly Making

QUIVERING, tempting, fine-flavored jelly is not in the least difficult to make if one knows just how to go about it right. A jelly with a delicate, natural flavor is much to be preferred over the string jelly in which the natural fruit flavor has been destroyed in the making.

In the first place, great care should be taken in selecting the fruit. Some people have an idea that any



FILLET OF CHICKEN—Brush fillet of chicken with olive oil, and broil for ten minutes; then simmer in white soup stock thickened with a little flour and butter for fifteen minutes, season with salt and pepper, place on toasted bread, and garnish with cooked mushrooms and water cress. Serve hot.

sort of inferior fruit will do for jelly, but this is a mistake. Never use fruit for jelly that is overripe, for it not only requires more boiling to make it jelly, but it will also be much darker. Pectose, the substance in fruit that causes it to jelly, is at its best in fruits that are at their prime. Some fruits will jelly better if used when only partly ripe, grapes and elderberries, for instance. Gooseberries also make better jelly before they are entirely ripe. Never try to make jelly out of quinces that have been frosted.

All fruits should be carefully picked over and washed and all the fuzz of peaches and quinces wiped off. It is usually best to cook fruit intended for jelly with their skins on, as it will give the jelly a better flavor. Use only porcelain-lined, agate or similar ware for jelly making, and use a silver spoon for stirring. Do not add water to currants or any of the juicy berries, but set back on the stove until the juice begins to flow, then boil slowly until done. Never squeeze the fruit through a bag, but hang the bag up where it can drip into a vessel below.

The amount of sugar used should depend on the acidity of the fruit. If a sour jelly is desired, of course less sugar must be used. Three fourths of a pound or a pound of sugar to a pint of juice are the usual proportions. Measure the juice, put in a kettle, and let boil for twenty or thirty minutes. In the meantime put the sugar in the oven and heat until scorching hot, but not until it browns. After putting in the sugar, boil for about five or six minutes; some kinds of fruit juice will require at least ten. It is always best to test it by taking a little out on a dish. When done, pour into glasses that have been thoroughly cleaned; when cold, cover well with melted paraffin, then put on the lids.

Peach juice never jellies well of itself, but if a little rhubarb juice is added it will jelly nicely and the flavor will be fine; or, if preferred, the juice of one lemon can be added to each pint of juice. Strawberries and raspberries make a much nicer jelly if combined with at least one part of red currant juice. Grapes and Siberian crabs make a good combination, also elderberries and the crabs.

M. M. W.

HOW THE WOMEN OF THE FARM CAN MAKE MONEY

FOR each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to FARM AND FIRESIDE. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. This department will be conducted on the second page of Housewife. Address Editor Housewife, FARM AND FIRESIDE, Springfield, Ohio.

Special to Farmers' Wives

WE DESIRE to call the special attention of housewives to the opportunity offered on the opposite page for exchange of plans and ideas helpful to each other, the giving of which also provides for placing in some good friend's home for one year a copy of FARM AND FIRESIDE.

Each issue we expect to set forth a number of plans on "How the Women of the Farm Can Make Money," providing, of course, that the industrious women of the farm take advantage of this offer. We invite the farmers' wives from every section of the United States to join this help-one-another movement.

Are you making a little money outside of your regular household duties? How are you doing it? Tell us and we'll tell some other needy farmer's wife.

Wouldn't you like to send FARM AND FIRESIDE to a friend, and especially if it is not going to cost you any money? Here's the opportunity!

Write plainly on one side of paper your plan for making "extra money." If you have more than one good plan, several perhaps, send them along. We may want to accept all of them. Any illustrated contributions will be gladly received.

Write plainly on separate sheet of paper the address to which you desire FARM AND FIRESIDE sent. We cannot tell now how long we shall hold open this offer. Better take advantage now. Address Editor Housewife, FARM AND FIRESIDE, Springfield, Ohio.

The Mysterious Menu

A SECRET SUPPER WITH A MYSTERY MENU is as swift and sure a way to break up all chilliness at a church, club or any social gathering and to start cheerful and comradic conversation as can possibly be devised.

Don't let a whisper of the proposed fun escape. When the guests gather around the tables present each one with an original bill of fare. These may be printed or type-written, but make nicer souvenirs and are less costly if the work of the entertainment committee. If a pen-and-ink artist is among the workers, have each sheet decorated at the top with some consistent design. A sphinx, a puzzled man holding his menu card and scratching his head confusedly, a boy with a bill of fare examining a dictionary, or any other appropriate design, may be used. Under this have in few lines:

If the viands you can detect,
Kindly six numbers then select;
If skill you lack, then boldly mark
Half a dozen figures in the dark.

Then follow rules, if any are made, such as: Waiters are requested not to aid guests in making a selection. And perhaps a brief explanation, telling all that

All Orders Are by Numbers.
Six Numbers Served for
Twenty-five Cents

In the list of edibles and liquids appended a general selection of foods is

11. Pungent staff of life.
12. Foreign contortions.
13. A busy insect and a color.
14. Leap-year vegetable.
15. Favorite food in Eden.
16. A Western state and bright girls.
17. In most common use.
18. First in time.
19. You pay the second to heal the first.
20. A Japanese name.

The answers to these bewildering bits are: 1, Beans. 2, Sliced ham. 3, Gum. 4, Cake. 5, Pie. 6, Water. 7, Lemonade. 8, Chicken. 9, Pickles. 10, Sliced tongue. 11, Gingerbread. 12, French twists. 13, Bread. 14, Popcorn. 15, Apples. 16, Molasses. 17, Milk. 18, Tea. 19, Coffee. 20, Cocoa.

As it might easily happen that a hungry guest, misled by the puns and plays on words, should order a set of numbers which brought him no substantial return, it is well, after every one is served, to go around and see if any such unfortunate would not like some explained sustenance. One can imagine how light a meal would be given a person who selected Nos. 3, 6, 7, 9, 14 and 16.

From the moment a brave guest gives his order, fun and jollity reign. A Secret Supper is even better than a neighborhood fire for making people acquainted and starting conversation.

MRS. SHERWOOD.

Trays

NOW THAT the old-time tray has been revived, modified as to size, original in style and the manner of its construction, and so simplified as to be manufactured by unskilled hands, they are, and will be, the fad for gifts.

All the arts that belong to woman may be utilized to good effect in these trays. A relic of fine needlework or perishable painting may be securely kept for years.

We have long been accustomed to tea trays, invalid trays and a tray for the calling cards, but the sensible tray of today is for the lamp and the popular jardiniere. Now the polished top of stand



LAMP TRAY

or table need not be marred by the dropping of water or oil.

The shapes vary according to the taste of the individual, the round one being the most popular for the center of the table.

An ordinary tin pie plate is the foundation of the round tray illustrated. A piece of old tapestry is fitted into the bottom of the pan; over this lay a piece of glass the right size, and bind the rim with a piece of bias velvet or silk wide enough to be glued over the edge of the glass, up and over the rim of the pan, and glued again to the outside bottom of the pan. This is concealed by covering the bottom with a fitted circle of felt or silk pasted smooth to the pan. The rim is ornamented with a piece of gilt braid wide enough to cover the binding.

Pressed ferns and flowers arranged on a light piece of silk under glass, old samplers, doilies and dainty water colors are all attractively preserved in this manner, sometimes simply finished with a binding of satin ribbon. A richer effect can be obtained if a rim of cut or beaten metal is used. Often at the hardware stores two-inch bands of openwork iron or brass borders can be obtained, which are easily bent to fit any shape of tray. The body of the trays are commonly made as follows: Cut from cardboard a piece large enough to extend one inch beyond the outer edge of the picture, or whatever ornaments the center of the tray. Cover this with white cambric, to which neatly tack the design, so it may be free from wrinkles. Now place over this the glass, which must be a perfect fit, and bind the edge with a strip of cambric, half an inch over both glass and pasteboard. Secure the bottom covering, and bind with gilt lace or braid. Fish glue is said to hold the glass more securely.

The oblong tray has for its decoration a page in color from an old-time fashion book.

Carved picture frames, or those of handsome wood, flat and plain, are well adapted to the purpose. To these can be attached

Thrifty housewives use the

UNIVERSAL BREAD MAKER

For Economy's sake? Yes, because it saves time. Fifteen minutes the old way—three minutes the new.

For Comfort's sake? Yes, because it saves tired arms and lame backs. Pour in all your liquids, then put in all the flour all at once—the rest is easy—just turn the crank.

Hygienic? Yes, because your hands need never touch the dough.

Better, lighter bread? Yes, because the UNIVERSAL mixes and kneads with scientific accuracy.

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quaint small brass handles of metal, which add materially to the appearance of the tray.

Another admirable point is the fact that variety, "claimed to be the spice of life," can be indulged in by simply making any tray over in new garb when you choose.

M. E. SMITH.

Summer Drinks

A NICE summer drink, called "jelly water," is made as follows: Beat one half glassful of tart jelly to a froth, add the same amount of boiling water, the juice of one lemon, sirup to taste, and enough cold water to make one quart. Chill, or serve with ice. The most suitable jellies for this purpose are currant, plum or mint jelly. The latter is made of green grapes and flavored with mint.

Cherry nectar is made of two quarts of red cherries, stemmed, and three cupfuls of vinegar. Let stand for three or four days, then strain through a cloth. Add one pint of sugar to each pint of liquid. Boil twenty minutes, and bottle. This is to be used for flavoring. This treatment may be applied to other wild berries.

To make fruitade, use two cupfuls of sugar with the juice of one lemon, one pint of raspberry juice, a small grated pineapple and two quarts of water. Mix, and serve iced.

To make mint punch, wash and bruise fresh spearmint, and strip off enough leaves to fill a quart measure. Use enough boiling water to cover, and steep for ten minutes. Strain, chill, and add one cupful of grape juice and one cupful of strawberry or raspberry juice, either fresh or canned. Sweeten to taste with a sirup made by boiling equal quantities of sugar and water for ten minutes. This sirup is much preferred to raw sugar for this and all similar drinks. This punch may be varied by using different kinds of fruits, such as lemons or currants. Allow a few sprigs of mint to float on the punch bowl or pitcher.

Suggestions that Are Good

MATTING as a floor covering in a sewing room is not a success, as the straw is continually becoming chipped, and these chips are bound to embed themselves in any soft material with which they come in contact. Better leave the floor bare, or use linoleum or an old in-grain carpet.

To keep the feet comfortable in hot weather, or when dancing, powder them thoroughly with talcum.

Save some of the shingles from your new roof and leave them out exposed to the weather. Then when the roof needs repairing there will be no unsightly "patches."

Dust white gloves with corn starch and tie up in dark blue paper if you do not wish them to turn yellow.

To clean chamois leather, wash in warm soapsuds. Renew the suds when dirty, and finally wring and hang the leather out to dry, occasionally pulling it with the hands during the process to make it soft. The soap left in the leather prevents it from becoming hard, as it would do if rinsed in clear water.

Try rubbing potatoes with butter or lard before baking, to prevent the skins from becoming thick and tough. To prevent soggy, prick each potato with a fork before putting in the oven. Another method is to make an incision in the end of the potato crosswise and another at right angles to it, after the potato is baked, allowing the steam to escape.

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made. This may be improved upon and changed to suit the season and circumstances. Each "mystery" here is original, however, and has not been used. A list of solutions follow:

MYSTERY MENU

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3. Not easily disposed of.
4. Pleasing mixtures.
5. Detested by printers.
6. Found between Europe and America.
7. A fruit and a humorist.
8. A fowl and its progeny.
9. What most youngsters are.
10. Pieces of an untamed weapon.

Mid-Summer Fashions for Children

Practical Fashions in Play Clothes for the Little Folks of the Family



No. 782—Girl's Sailor Suit
Sizes 6, 8, 10 and 12 years.

THERE is nothing like the sailor suit for children, both from a common-sense point of view and for smartness. The sailor suit is at its best this season, even though it is such an old story. It is made up not only in fine light-weight serge, but the new corded cottons, chevots, mercerized madrases, unbleached muslin, piqué and the heavy linens. It is trimmed very frequently with coarse white and colored linen, and often the collars, shields and wristbands are embroidered in heavy silk matching the dress in shade. The plaited skirt and the sailor blouse are very popular, and for mid-summer wear dark blue linen will make a serviceable little sailor dress with a white linen collar and shield.

Boys' sailor suits are also much in demand. Made of linen or light-weight serge they look well trimmed with braid. Many children nowadays, especially for mid-summer, wear sailor suits almost entirely—dark linen, mohair, and serge suits for play wear, and for afternoon and dress-up occasions white linen suits. Very heavy coarse-looking white linen is used for these dresses, with a touch of color introduced by embroidering the stars and emblems in luster cotton.



No. 758—Sailor Blouse Suit
Sizes 4, 6 and 8 years.



No. 921—Girl's Sailor Suit
Sizes 6, 8 and 10 years.



No. 770—Boy's Overalls
Sizes 2, 4, 6 and 8 years.

NOWADAYS mothers give special attention to the play clothes of their children. They are very careful that when the little folks are romping about outdoors their clothes shall not be a hindrance to them, and incidentally that they are not of the perishable sort that wear out as if by magic. Overalls, jumpers, rompers and aprons, which perfectly cover the little dress beneath, are all necessary to the child's wardrobe in these days.

For little girls and boys rompers make most desirable play clothes, as they keep the dress from getting soiled. The design on this page for a child's rompers is made full enough to wear over even the best dress and not rumple it. They can be made of any strong material like gingham, chambray or jeans. Both jeans and denim are good materials to use for the boy's overalls shown on this page, while crash is also an excellent material for this most useful little garment.

If the little summer girl happens to be going near the water for her vacation she must, of course, have a bathing suit. The little suit pictured on this page is an especially pretty one. It has a big sailor collar, and looks well made up in two contrasting fabrics. Mohair, serge or



No. 854—Boy's Blouse Waist
Sizes 4, 6, 8 and 10 years.



No. 686—Child's Rompers
Sizes 1, 2 and 4 years.



No. 777—Child's Bathing Suit
Sizes 4, 6, 8 and 10 years.

flannel are all desirable materials to use.

The Peter Pan dress is another good-style play frock. The waist must not be mistaken for a sailor blouse, for when correctly made it should look more like a shirt than a blouse. This design develops well in plain gingham with the collar, cuffs and pocket of check or plaid gingham. It is also appropriate for an early fall dress made up in panama cloth or a light-weight cheviot or serge.

Small boys still cling to the Russian suits. A variation of this style is the little Father Knickerbocker suit shown on this page, which looks very smart indeed made up in a black-and-white-check wool.

The pattern for the apron shown on this page can be made with a high or low neck. The fact that it has long sleeves and covers the dress beneath makes it a serviceable play apron. If one wishes, however, it can be made of white batiste or lawn cut out at the neck and trimmed with embroidery, and serve as a pretty apron to wear when through romping.

Mother's old lingerie shirt waist can be put to a sensible use by being made over into an apron for her small daughter. It would pay to buy new lawn, using lace from the waist.



No. 796—Peter Pan Dress
Sizes 6, 8, 10 and 12 years.

HERE'S good news for the mother who has a small daughter to dress and care for. The latest in hats for summer wear is a lingerie hat that can be washed and ironed as easily as a handkerchief. It is made over the lightest of wire frames, and can be taken apart for laundering by merely pulling a ribbon, and it can be quickly put together again without one bit of sewing. This washable hat is made for both grown-ups and little folks, and sells from fifty cents up to five dollars, according to the material used. The plainer hats are made of piqué and lawn, while the more elaborate ones are of fine swiss embroidery and Valenciennes lace.

The hats come in colored piqué to match the dress, and some of the more expensive ones are trimmed about the crown with satin ribbon, which ties in a bow at the back, the two ends falling well over the hair. These hats are extremely pretty, and as for their convenience, nothing can equal them.



No. 850—Apron With Round Yoke
Sizes 2, 4, 6 and 8 years.

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Our magnificently illustrated summer catalogue of Madison Square patterns will be sent free upon request. Order all patterns from Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

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ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

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No. 795—Father Knickerbocker Suit
Sizes 4, 6 and 8 years.

Miss Gould's Practical Fashions

On This Page Are Given Careful Directions for Making a Good-Style Wrapper With a Princess Back



No. 934—Wrapper With Princess Back

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, eight and one half yards of thirty-six-inch material, or seven and one half yards of forty-four-inch material

OF ALL the busy home-loving women in the world who make their own clothes, there is a whole army who favor the shirt-waist suit in preference to the wrapper, when it comes to morning dresses, and another whole army who think a wrapper to wear about the house is far superior to a shirt-waist suit. There is no doubt but that the shirt-waist suit has a smart appearance of its own, which many times the wrapper cannot claim. When getting into the shirt-waist suit, however, there is always the collar to pin properly, the placket to fasten, and, above all, the belt to adjust so that it will stay where it should. That's why there are many women who do their own housework who prefer to slip into a wrapper in the morning. And there is really no reason why a woman should not look just as neat and dainty in a wrapper as in any other kind of a house dress, if only it is made properly and she chooses the right material.

The illustration on this page shows Wrapper With Princess Back, No. 934, the pattern of which may be ordered from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. Price ten cents.

This wrapper has a fitted princess back with plaits in the center below the waist, to give a graceful fullness to the skirt portion. The long lines of the princess are very becoming to all figures, and the front may be permitted to hang loose if that style is more comfortable. The pattern provides a lining front and under-arm gore, which fit closely and hold the gar-



Showing Wrapper Without Collar, With Loose Front and Kimono Sleeves

ment to the figure even if the front is loose. The broad sailor collar adds a touch of originality to the wrapper, but may be omitted or made adjustable if preferred.

Three different styles of sleeves may be made. They are illustrated on this page. The three-quarter puff can be made with or without the deep cuff, and a loose kimono sleeve is also given.

The pattern envelope contains nine pieces. The wrapper front is lettered (V), side gore (Y), back (T), collar (L), sailor collar (F), sleeve (K) and cuff (J); the front and under-arm gore of the lining are each designated by a large triangle perforation.

Smooth the pieces of the pattern out carefully and pin on the material with the edges marked by triple crosses on a lengthwise fold. Place the other parts of pattern with the line of large round perforations in each lengthwise of the goods.

Join the pieces by corresponding notches. Take up the darts in the lining fronts by bringing the corresponding lines of small round perforations together. Turn hems on lining fronts by notches and fasten invisibly. Join lining fronts and under-arm gores. Line the backs and side gores as far as the waistline, indicated by square perforations.

Form the plaits in back below the waistline by placing cross on perforation at upper edge, and bring long line of large round perforations over to meet center back seam.

Take up the hip darts in wrapper fronts by bringing the lines of small round perforations together. Gather at neck between double crosses. Close the center front seam as far as notch. Finish edges of opening above notch. Arrange wrapper fronts over the lining fronts and under-arm gores, matching edges and notches. Close the wrapper in front with buttons and button-holes. Turn a three-inch hem at lower edge of wrapper by lines of large round perforations. Tack ribbons at under-arm seams at waistline and tie in front.

Turn the hem on front edges of collar by notches. Join sailor collar and standing collar to neck of wrapper as notched. The sailor collar and ribbons may be omitted, as shown in one of the small illustrations.

Gather the puff sleeve at upper and lower edges between double crosses. Finish the cuff and join to the lower edge of sleeve as notched. Arrange the sleeve in arms-eye, placing front seam at notch in front of wrapper, and top notch in sleeve at shoulder seam. Pin securely at these two points. Pin the plain part of the sleeve smoothly into the arms-eye, holding the sleeve toward you. Draw up the gathers to fit the remaining space, distribute the fullness evenly and pin carefully. Use several pins in arranging the gathers, having the sleeve securely in the arms-eye before basting it.

To make three-quarter puff sleeve, omit the cuff. Stitch a casing or turn a very narrow hem at the lower edge of the puff, and insert a tape or elastic to regulate the fullness. Draw the sleeve up on the arm a trifle, so the puff falls over the elastic. If an armband is required, cut a strip of material ten inches long and two inches wide, and join the sleeve to the upper edge of the band.

To make the kimono sleeve, gather the sleeve only at the upper edge, and permit it to hang loosely over the arm. Finish the lower edge with a band of lace.



No. 952—Shirt Waist With Vest Lapels

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one fourth yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material

The design illustrated on this page for a shirt-waist suit has much that is novel and smart about it. The collar is its new feature. This is deep and pointed at the back, while in front it extends in two pointed tabs, which are finished with pockets. The pockets are real ones, and have a little button-over flap at the top. The waist is tucked back and front, and fastens at the left side under a tuck. The sleeves of the waist, which are long, are finished with cuffs cleverly trimmed to simulate pockets.

The skirt of this shirt-waist suit is very graceful and full. It is cut in seven gores. The front gore is narrow, forming a plaited panel. There are plaits on each side of the side and back gores which meet to form an inverted box plait.



No. 950—Shirt Waist With Pockets on Collar

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one fourth yards of twenty-seven-inch material, or three and one fourth yards of thirty-six-inch material

No. 951—Seven-Gored Plaited Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, eight yards of twenty-seven-inch material, or six and one fourth yards of thirty-six-inch material

You Can Have This Silk Fan



It will not cost you a cent, either, and it is without doubt one of the handsomest gifts we have ever offered the readers of FARM AND FIRESIDE. Silk fans are mighty fine things to have, because they not only last for years, but they are perfectly exquisite, especially when hand painted like this fan.

Description:—This white silk fan is beautifully decorated with small silver spangles and hand-painted designs. It is edged on top with delicate lace and the base of the fan is trimmed with purling braid. The fan is mounted on decorated white enameled sticks eight inches long. This fan is

Really Beautiful

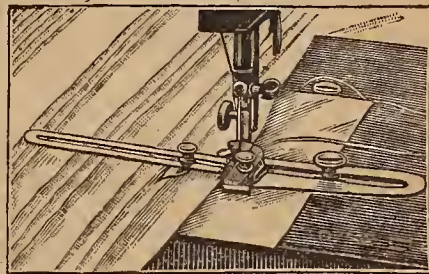
You can have it sent prepaid right to your door if you will send us only five subscriptions to FARM AND FIRESIDE at 25 cents each. Don't delay, but be the first one in your town to own one of these exquisite fans. Remember, it takes only five subscriptions, and send them all to

FARM AND FIRESIDE
SPRINGFIELD OHIO

THE MAGIC TUCKER

(Regular Price \$1.00)

For Only Four Subscriptions!



Description: This Magic Tucker is made of best quality steel, nickel-plated. It fits any sewing machine and is easily put on or taken off. It cannot get out of order, does not touch the foot or feed of the machine, and does not cut, pull or stretch the goods. Any quality of material is tucked equally well, and it makes the smallest pin tuck or the largest tuck with equal precision. This wonderful little device tucks silks, flannels or woollens, without creasing, hastening or measuring. With one of these tuckers you can do all sorts of things on your sewing machine that have been impossible before, and that will add much to the attractiveness of your clothes. If you have a sewing machine, you certainly ought to have one of these Magic Tuckers. No invention of recent years is more of a labor saver in the home or more of an aid to the housewife.

TENS OF THOUSANDS

have been sold at \$1.00 each throughout the country. We could not possibly offer it for four subscriptions if we did not buy them in very large quantities. We believe the Magic Tucker is one of the most wonderful devices ever invented for use in the home, and for this reason we have made special arrangements with the manufacturers whereby we can offer it to readers of FARM AND FIRESIDE without a cent of cost to them.

DON'T FORGET

Only four subscriptions to FARM AND FIRESIDE at twenty-five cents each, will bring this Magic Tucker right to your door. Your own subscription or renewal may count as one, and you can easily get three of your friends to take FARM AND FIRESIDE. Just think, a \$1.00 Magic Tucker and four 25 cent subscriptions all for only \$1.00—just one half the regular price. Isn't that fair enough? These tuckers will go very fast, so don't delay. Send all orders to

FARM AND FIRESIDE
Springfield Ohio



Any One of These Three Sleeves May Be Used in the Wrapper Shown on This Page. The Pattern Provides for Them all

A Blossom Party

BY EDITH E. SHAW

GATHERING card boquets will be found capital amusement at a children's summer party, nor is it a diversion to be despised in the entertainment of grown-ups, since it exacts less mental effort than the usual kinds of card parties, and one's mental powers are usually somewhat below par in hot weather.

To prepare the cards for the game one must first provide six times as many blank cards as there are to be guests, and group them in sixes, each group representing a complete hand. The lettering of the cards is done somewhat on the plan of Authors: Taking one pack of six cards, one prints or pastes on the first card a large B, on the second card an O, on the third, Q, and U, E and T on the fourth, fifth and sixth cards. Each group of six is similarly treated, so that the cards of each hand spell the word "Boquet."

Then on each card of say four complete hands (twenty-four cards) print below the large letter the word "Roses." On the cards of four other hands print "Violets," and so on, until all the cards have the name of some flower written below the large letter.

Now, when they are well shuffled, they are ready to deal to the players, six to each player, whose ultimate object is to secure cards bearing the six letters needed to spell "Boquet," all of the one variety of flowers. After ascertaining which are to be retained and which traded, all scurry about trading flowers with their neighbors, one card at a time only. Letters or varieties are not asked for, but each must take chances on getting something they can use, and interest and excitement runs high in seeing who can secure a full hand of one flower first. The first one to call out "Boquet of roses" (or any other flower) is the winner of the game, and cards are then shuffled and dealt for the next game.

The one gathering the most boquets during the afternoon or evening is entitled to the first prize, and of course the player getting fewest or none must be consoled. Either potted plants or vases make appropriate prizes, or a fern ball—"nothing but leaves"—is a fitting consolation prize.

Tally of the games can be kept by giving the winner a single real blossom each time, these to be counted at the close; or, if one wishes to give souvenirs of the party, get the tiny vases that can be had in all designs and prices from five cents up, write a guest's name on each, and use these to hold the tally blossoms.

The decoration of rooms and tables becomes a simple matter with flowers as the feature of the party, but the idea is perhaps even better yet when applied to the entertainment for a lawn party, as it involves so much movement, and in any event the intermingling of the guests is most conducive to a good time.

Two Stockings

BY CORA WETHERBY

GRANDMOTHER says I'll lose my head next.

Papa says he can't afford to buy me any more knives.

Mama says she'll have to sew my clothes on.

That's because I left my jacket on a fence corner when I took it off to play ball, and I came home without it, and when I went back it wasn't there.

Norah says we'll all starve next.

That's because I went to buy some things, and I lost the paper they were written on, and when I was looking for it I found a cent, and I heard an organ grinder and a monkey, and me and Billy Watkins went to give 'em the cent, and we went 'round after 'em a little while, and when I got home it was 'most dinner time, and the things to eat weren't there.

I wish my things wouldn't always get lost. Mama says it's because I'm not careful of them, but I guess she doesn't



"PLAY BALL"—By Jennie Martin McDaniel

"Play ball!" said Nell; "strike! Catch it, Bell; Just look at papa run!"

"I must confess," said prim Miss Bess, "I cannot see the fun."

know how easy it is to lay down your knife by the creek when you're making willow whistles and forget all about it.

Or to throw your ball the last time and never see where it goes when they call you to wash for supper, and never think of it again till the next time you want it, and then you don't see it again till some one picks it up under a bush all soaked.

Or to leave your new felt hat on the grass when you're playing mumblepeg, and Rover finds it and tries to eat it up.

Or to have your tops and handkerchiefs and shoes and gloves always getting lost all kinds of ways.

One day grandma asked me if I thought Santa Claus would bring anything for boys who lost everything.

"I guess he don't know," I said.

"I believe he does know," grandmother said. "He always seems to know pretty well what you want in your stocking, doesn't he?"

He does, you know! And I began thinking I'd better be careful, for Christmas was coming. But somehow I wasn't, for that very day mama sent me with a sponge cake over to old Miss Pratt's, and I just set it down while I was looking for some gum on the old cherry tree, and the first thing I knew Rover had it half eaten up, and I guess he thought it was better than felt hats.

But I was hoping Santa Claus would not hear about it—and about some other things when he had so much to see to about Christmas time.

We all hung up our stockings. I had a great time trying to find my best red ones, and at last I found one where I'd rolled it into a ball to shy at Tom, and it fell behind some books, and it had a dreadful hole in the toe because it hadn't got into the wash, and so it hadn't got mended, but I thought Santa Claus'd be too busy to notice that.

On Christmas morning we boys all jumped for our stockings, and I was just seeing that Jack and Tom were hauling out things with paper 'round, and they were silk mufflers, and I hauled out a paper, too.

Was it a new silk muffler all soft and nice, with poke dots on the edges?

No, sir, it wasn't.

It was three old mean handkerchiefs of mine, that I'd stuffed into a hole in my ship when she leaked.

And there was a knife all rusty that I'd been making a dam with. And there was another knife I'd left out when I made a snow man, and a pearl-handled one of mama's I'd taken to make a grave for a beetle when the ground was frozen, and it was all spoiled, too. And there was a top that I had cracked when I threw it at Billy Watkins's dog.

I wouldn't look at another thing, but I saw down on the floor my beautiful picture book I left out in the rain, and my

ship I left in the sun till she cracked, and my whip I poked the fire with, and I pitched the old stocking away, and I—well—bawled!

Soon folks came to see what the matter was, and grandmother came right in.

Tom said, "He don't like his stocking, and I wouldn't, either. It's a mean old stocking."

And grandmother said, "Why, this is a nice stocking. Look here."

I looked, and I saw my other red stocking that I couldn't find hanging there all clean and mended, and I don't know to this day how I didn't see it before, and there was a muffler for me and a new knife and lots of other things, and Tom showed grandmother the old stocking, and she took up the things that were in it, looked at 'em and said:

"Yes, yes, I see how it is. These things were for a careless boy. Of course Santa Claus couldn't put nice things in such an old stocking as this. And the new things are for a boy who is going to be careful and orderly."

A Turkey Story

BY MRS. E. G. HOWES

HAVING read in FARM AND FIRESIDE of April 25th a turkey story, as told by Mrs. Ed Roop, of Marion County, Missouri, I am reminded of an incident that may be of interest to the readers of this paper, showing that our friends in fur and feathers have more intelligence than we many times give them credit for.

A number of years ago, in the state of Illinois, I decided to try turkey raising, and accordingly purchased a fine turkey gobbler and three turkey hens. One of the hens was two years old, and it is of the sagacity of this hen that I write. Very early in the spring this hen stole her nest away, and in due time brought out a brood of young turkeys. She kept them out in the fields, far away from the house, and although we sometimes saw the old turkey's head above the growing timothy or wheat, only once or twice did we get even a glimpse of the young turkeys. One evening I heard a great commotion among the fowls; and on going out to investigate, found that the old turkey hen had brought her youngsters to the house. They were then rather larger than full-grown quails. Well, such a time as they did have for a half hour or more, gobbling and cackling, and both the old hen and the gobbler strutting up and down the yard. In fact, all of the fowls seemed very much excited. Then Mr. and Mrs. Turkey mounted the roost, and after much coaxing she succeeded in getting all the young ones up on the roost on either side of the gobbler. The hen remained with them that night, but the next morning she disappeared, and Papa Gobbler

took entire charge of the flock after that. A few days after, my husband going down a ravine on the farm, came upon the gobbler and young turkeys, and a little further on discovered Mrs. Turkey snugly located on her second nest full of eggs, which she must have had all ready before she turned the family over to their paternal ancestor. We found, upon slyly watching, that the gobbler and youngsters spent a good deal of their time during the days in the vicinity of the nest. About a month after, the old hen appeared with another fine brood, and the rest of the season they roamed the range together, an unbroken family, and when the younger ones were large enough, they were brought up to the family roosting place.

Rules for the Young People

THERE are a great many things in which boys and girls err, for the simple reason that they forget. What you should do in this connection is to make up your mind that you are not going to make the mistake a second time. Cultivate the rules of manliness and ladylike manners, and there isn't any doubt but that the future will see you numbered among the good boys and girls who succeed in life.

Always offer a chair to a lady or gentleman.

Always be quiet when others are talking.

Keep your faces, clothes, shoes, hands and finger nails clean.

Never leave your clothes strewn about the room. Have a place for everything.

If you would be healthy and bright, go to bed early and get up early.

Never cry unless you are much hurt, or feel badly, and then don't cry much.

Be kind to everybody, be cheerful and helpful, and you will have many friends.



The Puzzler

ISLANDS OF THE WESTERN HEMISPHERE



CHARADE NO. 1

A coxcomb once at dinner sat
Beside a charming maid,
And thinking flippancy would please,
He to my second said:
"Who is that queer FIRST customer
With no thatch on his poll?"
"That is my WHOLE," the maid replied,
In tones that froze his soul.

CHARADE NO. 2

In FIRST a drinking vessel you will see,
My second names a class of high degree;
In Ohio state my TOTAL may be found,
The word in China also is renowned.

ANSWER TO FOURTH OF JULY REBUS IN THE JUNE 25TH ISSUE

Of all days in the year none is as dear to the hearts of the American people as Independence Day, and Americans, no matter in what clime they may be, will celebrate the holiday in some fitting manner. It will only be a few days until the boom of cannon will announce the 131st anniversary of American freedom.



"My poor, sick dolly, I guess I'll have to send for the doctor"



"Good-morning, doctor, I am so glad you are here—I am dreadfully worried"



"No, nothing dangerous; she's badly run down from overwork"



The doctor's fee—the collection of which is not usually so prompt

OVER \$8,000.00 IN PRIZES

and rewards given to the contestants in the

FARM AND FIRESIDE GREAT FOUR-PONY CONTEST

which closed May 31, 1907

HOW THE CONTEST RESULTED

The great FARM AND FIRESIDE Four-Pony Contest—the largest contest of its kind that has ever been conducted by any American publisher—closed as advertised, May 31, 1907. The result has been very satisfactory to every one. Not only is FARM AND FIRESIDE delighted with the outcome, but we are receiving more and more letters every day from contestants who are eager to thank us for our liberality and generosity.

Every person who entered this contest, which has just closed, not only received a cash commission on each subscription obtained, but also received at least one valuable prize, and had a fair and square opportunity to win the ponies. Of course everybody couldn't win the big prizes like the ponies and the pianos, but absolutely every contestant did receive a prize just as we promised.

It has been a very great pleasure to read the letters as they came in from the prize winners expressing their joy and appreciation of the presents which they received. Many even sent their photographs. Every one seems happy because we sent every one a prize.

Three thousand dollars more than we promised were given in prizes and rewards to those who entered this contest.

All contestants who were not Grand Prize winners received prizes selected by the publishers, graded by the number of subscriptions sent. It was on these prizes that the \$3,000.00 additional was spent.

Be sure to read the letter below from the first-prize winner. He tells not only all about how happy he is over getting first prize, but also just how he got the subscriptions.

HOW THE PRIZES WERE DISTRIBUTED

The Grand Prizes and all the other handsome prizes were sent to the persons entitled to them just as fast as they could be gotten out. The first three prizes were sent out within two weeks after the contest closed, and all had been sent by June 20th. Of course it was very hard indeed to choose so many valuable prizes for our friends whom we had never even seen, and this took a great deal of time and painstaking effort. We wanted to send every one something that he or she would appreciate—not a little toy to be quickly thrown aside, but some prize of real value and worth. In order to do this we had to spend \$3,000.00 more than we originally promised and intended, but we did it because we wanted all our contestants to feel perfectly satisfied. This is probably the largest contest that has ever been conducted where absolutely every contestant has received a prize.

THE FIRST-PRIZE WINNER



MR. ROBERT W. HARRINGTON, AMHERST, MASS.
Winner of "Surprise" and "Beauty," the First Prize

Amherst, Mass., June 10, 1907.

FARM AND FIRESIDE,
Springfield, Ohio.

DEAR SIR:

It was very easy to get subscriptions. All I had to do was to ask people if they took FARM AND FIRESIDE. If they didn't care about taking it for some reason or other, usually because they had more papers than they could read, I would let them take a sample copy to look through. If I had had more sample copies I believe I could have gotten more subscriptions, for after they had looked it through, time and again they would come to me to give me their subscriptions, they were so ready and willing to take it. Then, too, there weren't very many who really took the paper to help me out. Most of them took it because it was a paper worth taking, and said, "I never thought the paper could be so good," and "Why! that is a fine paper. I will take it another year if you want me to." On the whole it was very easy to get subscriptions, and it has proved to be time very well spent. I shall send you my picture by first mail. Thanking you, I am

Yours respectfully,

Robert W. Harrington.



MISS VIVA McNUTT, VANDERGRIFT, PA.
Winner of the Second Prize

Although the Pony Contest is over, we are still offering many beautiful and valuable prizes to our friends—who send us subscriptions to FARM AND FIRESIDE. Among these prizes are a great many that are exactly similar to prizes that were won in the Pony Contest. If you want to know more about these prizes, write us. We will tell you by return mail.



MISS MARGUERITE LAWSON, HOPKINSVILLE, KY.
Winner of the Third Prize

FARM AND FIRESIDE now has the largest circulation that it has ever enjoyed in the thirty years of its existence. Our paid-in-advance subscribers number over 440,000. Many of them have taken FARM AND FIRESIDE ever since it was started. That FARM AND FIRESIDE has a great hold on its big family is shown by the fact that it renews more subscribers than almost any other magazine or paper.

THE GRAND PRIZE WINNERS

ROBERT W. HARRINGTON, Amherst, Mass. First Prize—The Pony Team "Surprise" and "Beauty."

Viva McNutt, Vandergrift, Pa. Second Prize—Harrington \$750.00 Piano.

Marguerite Lawson, Hopkinsville, Ky. Third Prize—The Pony "Wuzzy," Wagon and Harness.

Orvin E. Hill, Kennedy, N. Y. Fourth Prize—High-Grade Rubber-Tired Buggy.

Lewis Ruff, Moultrie, Ohio. Fifth Prize—Waltham Gold Watch.

Ernest McKnight, Indianapolis, Ind. Sixth Prize—Double-Barreled Shot Gun.

Mrs. J. H. Jarvis, Delaware, Ohio. Seventh Prize—Sewing Machine.

Lester M. Donaldson, Wapello, Iowa. Eighth Prize—First-Class Reliable Incubator.

Mrs. E. A. Chapman, Mountain View, Cal. Ninth Prize—Set of Dishes.

Leonard Forman, Osceola Mills, Pa. Tenth Prize—Solid Oak Writing Desk.

Florence M. Boyer, Meyersdale, Pa. Eleventh Prize—Mantel Clock.

Paul Clay, Mangum, Okla. Twelfth Prize—Leather Suit Case.

Laura B. Snyder, Vandergrift, Pa. Thirteenth Prize—Beautiful Violin.

Amelia Burns, Selma, Ala. Fourteenth Prize—Eastman Kodak.

Hester Sexton, Macomb, Ill. Fifteenth Prize—Ladies' Pearl-Handled Gold Pen.

Leland Kreig, Nelsonville, Ohio. Sixteenth Prize—Silver Knives, Forks and Spoons.

Howard G. Laidlaw, Walter, N. Y. Seventeenth Prize—Military Brushes.

Helen Zimmerman, Lexington, N. C. Eighteenth Prize—Chatelaine Watch.

Maud Ward, Eau Claire, Wis. Nineteenth Prize—Hammock.

Lola Thacker, Bethel, Ohio. Twentieth Prize—Opera Glasses.

Harry Geiser, Vulcan, Mich. Twenty-First Prize—Gun-Metal Watch.

Robert Bremer, Johnstown, Pa. Twenty-Second Prize—Carving Set.

Arthur Smith, Falls Creek, Pa. Twenty-Third Prize—Stevens Rifle.

Helen Pressley, Erie, Pa. Twenty-Fourth Prize—Diamond Ring.

Mabel Spangler, Adam, Ill. Twenty-Fifth Prize—Solid Gold Ring.

This brings to a close the most successful and most liberal prize contest of which we have ever known. It is very evident from letters received, and other sources, that those who entered the contest are well pleased with the result, and with the way FARM AND FIRESIDE more than lived up to every one of its promises. We take this opportunity to thank all our friends most cordially for their interest in FARM AND FIRESIDE—undoubtedly the giant of the Farm Press.

FARM AND FIRESIDE, SPRINGFIELD, OHIO

The Grange

BY MRS. MARY E. LEE

THE GRANGE IN VERMONT

THE leading article in "The Vermonter," a state magazine, is devoted to a historical sketch of the Grange in that state. The front cover page has a likeness of the present State Master, Hon. George W. Pierce.

The first Grange in Vermont was organized July 4, 1871, through the efforts of Jonathan Lawrence, of Saint Johnsbury. Brother Lawrence was of sterling, Puritan ancestry, a man universally respected, always a hard worker for the Grange. The Vermont State Grange was organized at Saint Johnsbury, his home town, July 4, 1872. A spirit of independence seems to have possessed the members. Eben P. Colton, carpenter and lumber dealer, was chosen the first Master. Chas. J. Bell, Member of the Executive Committee of the National Grange, for many years Master State Grange, was the first Treasurer.

At the first State Grange only eight of the thirteen Granges in the state were represented. Only seven or eight Granges were organized the first year after the State Grange, but when the special session met at Montpelier, March 26, 1874, one hundred and twenty Granges were reported. The receipts for the year were over \$1,700, with a balance on hand of about \$1,100. By 1876 the attendance at State Grange was so large that the hotels of Windsor could not take care of the delegates and visitors. Two hundred and twenty-one charters were in force.

Then came a period of depression, and when, in 1885, Alpha Messer, Past Lecturer National Grange, became State Master there were only fifty-six Granges, with a membership of about thirteen hundred. This continued until 1894, when only forty-six Granges reported; but there was an increase in the efficiency of these Granges, for there were 2,580 members.

At this meeting C. J. Bell, who afterward became the honored governor of his state, was advanced from Treasurer to Master and the Grange entered upon a tidal wave of unparalleled prosperity. Governor Bell continued to serve with distinguished success until 1906, when Hon. Geo. W. Pierce was elected Master.

It is creditable to the Granges of Vermont who have wrenched success from adversity, that they have placed the Grange on such a pinnacle that it should command the respect accorded it in "The Vermonter." Let other states do likewise.

NATIONAL GRANGE

The next session of the National Grange is to be held at Hartford, Connecticut. The Patrons of this state have waited a long time for the honor of entertaining the national body. They are sparing no pains to make this the best session in the history of the Grange.

By wide advertisement, splendid enthusiasm among the members, and cordial help from the Hartford Board of Trade, arrangements are being made that will make the trip a red letter one in Grange meetings. Let every Patron who can, come to this annual reunion of a people who are doing more for humanity than any other organization.

STANDARDIZING ACCOUNTS

President Roosevelt, in his Indianapolis speech, advocated the standardizing of accounts of railways, inspection and auditing of same, and publishing of results. This publicity, he said, would prevent watering of stocks, enable stockholders and the public to know conditions, provide for honest dividends for stockholders, and bring order out of chaos.

This is precisely what these columns have been advocating for some time past under the caption of "Uniform Accounting." It is what Allen R. Foote Commissioner of the Ohio State Board of Commerce, advocates in "Public Policy," and through his organization. He wrote the article for the Oklahoma Constitution that provides for this system. It lies at the bottom of the whole work of reform in public affairs. Throw the light of publicity on every transaction.

Let every department of the public service keep an accurate account of the income and outgo of that department and stop the endless juggling of accounts. Let every franchise owner keep an account of cost and income, then will the people know whether the business is being conducted in the interests of the people or not. Every one wants every business to make a good interest on capital invested, as well as receive liberal compensation for energy and ability, but no one wants the

community to be the foraging ground for unscrupulous schemers.

The remedy for the ills we suffer lies in our hands. When the public affairs are conducted as carefully and economically as private ones we will have ended the burden of taxes, the graft of under-work and overpay, filchings from the public coffers and the various ways of private gain from public business.

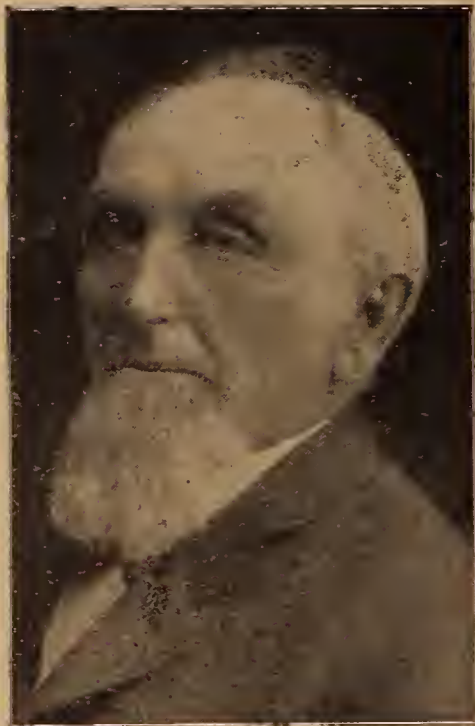
HON. ORSON S. WOOD

Hon. Orson S. Wood, Master of the Connecticut State Grange, is held as one of the most respected and able members of the National body. He is thoroughly imbued with the rugged and fearless honesty of his Puritan ancestors. Keen, shrewd, kindly, a wise counselor, an aggressive Grange worker, he has won for himself and the Grange in Connecticut an enviable reputation. Brother Wood is a graduate of Yale College.

FARM AND FIRESIDE IN CALIFORNIA

F. H. Babb, Lecturer California State Grange, has sent a circular to the Granges in the state urging them to take the FARM AND FIRESIDE.

Brother Babb is a true benefactor, because he is recommending, to his state a splendid family paper which gives a great deal of space to the Grange. The Grange in California has had some peculiar adversities to overcome, but it is destined to become one of the strongest State Granges in the Union. Brother Babb may



HON. ORSON S. WOOD

tell us of some of the struggles for growth in the near future.

Through his efforts the agricultural college at Berkeley is offering opportunity for home study. To make this correspondence course a success Brother Babb will have to make it distinctively a Grange feature, done by and for the Grange through the medium of the university.

THE OBSERVATORY

Twenty-seven states either have a tax commission or have amendments to the constitution pending on the subject of taxation. The discontent from systems established is nation wide. If people will only learn the lesson taught by the past, not to graft mandatory legislation into the constitution, but leave the people free to work out their own destiny, the trouble will not be in vain.

For many years the Grange has pronounced in favor of woman suffrage. Has any state yet worked for it aggressively? Women really want the ballot, but fear the unpopularity of saying so. When some immorality or unusual ferocity is perpetrated they are roused to say, "I would like to vote on that."

One of the most prosperous farmers of the Middle West, in writing the story of his success, said, "I gained what little wealth I have by answering advertisements." What he meant was that every time he saw a new or interesting piece of farm machinery advertised he investigated it. By using improved machinery and the best farm methods he became prosperous.

A PARASOL FOR OUR LADIES

WITHOUT COST

Read below how you can get it

IT'S A PERFECT BEAUTY!



Description:

We have no hesitation in telling our ladies that this is one of the prettiest sunshades we have ever seen. For a long time we have been looking for a parasol that would be good enough for the ladies of the FARM AND FIRESIDE family, but not until we found this beautiful one were we successful. Miss Grace Margaret Gould, America's foremost fashion authority and editor of the FARM AND FIRESIDE fashion pages, says that these white linen parasols are the very latest vogue. Every one of our ladies should have one. This one is

MADE OF INDIA LINON

with a wide row of various designs of embroidery insertion around the entire parasol. You never saw a more handsome sunshade, it is perfectly stunning, and is not only most stylish and up-to-date, but, what is even more important, will last for years. White linen parasols with embroidery are all the rage this summer. They have come to stay. Be the first lady in your locality to own one of these handsome luxuries. You will be prouder of it than you ever have been in your life. It is most durably made, has a steel frame and is

FINISHED IN SILVER

to match with the white linon. The fancy stick is made of genuine bamboo. This handsome parasol will be sent to any reader of FARM AND FIRESIDE who sends us only fifteen subscriptions to FARM AND FIRESIDE at 25 cents each. No more than one parasol will be sent to one person, and this offer is made only to our regular readers. Remember this beautiful parasol is yours for only fifteen subscriptions. Don't let any one in your town get ahead of you. Send all orders to

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SPRINGFIELD, OHIO

ANY BOY CAN EARN A WATCH IN ONE DAY'S TIME

It is so easy that some boys have gotten watches almost before they realized it. You can get one just as easily and just as quickly if you want to. We have over three thousand of these fine, serviceable watches to give our friends during the next few months, absolutely without cost. These watches are made by one of the largest and most reliable watch factories in America. By buying thousands of them we get them at greatly reduced rates and can thus make our boys this liberal offer.

THIS IS THE WATCH

we want to send right to your door without its costing you a cent. It is the same kind of watch that we have sent to Charles Angle and thousands of other boys. You can get it almost before you know it, by telling all your relatives and friends that you are working for a watch, and getting their subscriptions to FARM AND FIRESIDE—the best farm and family paper published.

This is a picture of Charles O. Angle, R. F. D. No. 4, Danville, Pa. In a recent letter to FARM AND FIRESIDE he said: "Every one I would ask to subscribe to FARM AND FIRESIDE would ask me to see it, and as soon as they saw what a good paper it was, they subscribed right away. I am proud of my watch for it is just what FARM AND FIRESIDE represented it to be." You will be proud of your watch too if you will let us send you one.

Regular sixteen-size, and three eighths of an inch in thickness. Lantern-pinions (smallest ever made). American lever escapement, polished spring. Weight, complete with case, only three ounces; quick-train—two hundred and forty beats a minute. Short wind; runs thirty to thirty-six hours with one winding. Heavy bevel crystal. Bevel snaps on. Tested, timed and regulated. This watch is guaranteed by the maker.

MOVEMENT In every watch will be found a printed guarantee, by which the manufacturers agree that if without misuse the watch fails to keep good time within one year, they will, upon its return to them, with five cents for postage, repair it free of charge, and return it.

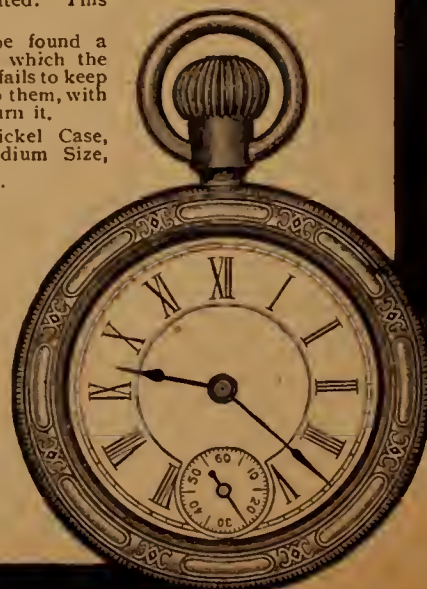
THE GUARANTEE DESCRIPTION—Plain Center Band. Elegant Nickel Case, Snap Back, Roman Dial, Stem-Wind, Stem-Set, Medium Size, Oxidized Movement-Plate, Open-Face.

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Send us your name and address on a postal card today and tell us you want to get a watch. We will send you by return mail a book of eight coupons, each one of which is good for a year's subscription to FARM AND FIRESIDE. We will also send a sample copy of the paper so you can show it to your friends. You sell these coupons (each good for a full year's subscription) to your friends and neighbors at 25 cents each. When the coupons are sold you send the \$2.00 to us and we will send you the watch immediately.

Thousands have earned watches by this plan. You can do it in one day's time. Write today and be sure to ask for a book of eight coupons.

FARM AND FIRESIDE
SPRINGFIELD, OHIO



PITHY POINTS FOR PONDERING FARMERS

The man who runs his farm
Up-to-date in every way
Will live to see his neighbors
Thus run theirs some other day.

It is no reflection on a man to be called a fool for doing right.

You can always avoid bill collectors from coming to you by going to them just a day before the bills come due.

Slipshod farming generally ends where the subscription for a farm journal begins.

Every farmer should strive to be popular among the inhabitants of his own barn yard.

The automobile has come to stay. Hence, the quicker we get our horses used to them, the better for all concerned.

A plain but neatly dressed man always looks more like a gentleman than an over-dressed dude.

It is bad manners to wear gloves when doing the average farm work; it is bad judgment not to wear them when the hands actually need protection.

It is better to put all your eggs in one safe basket and give it your undivided attention than to distribute them in half a dozen baskets and give your best attention to none.

Give your hen a square deal by devoting a tenth of all the income due to her to the improvement of that part of the farm which belongs to her, and protecting that part from her which does not.

Experiments are made yearly which demonstrate that the old way of doing some things is bad, and that a new way is better. If your farm paper tells you about it, it is so. Adopt the new way.

W. J. B.

THE PHILOSOPHER OF THE HORSE SHED

THE MAN WHO WENT WEST AND DIDN'T STAY

"Well, Jim has got back," said Jonas, as Jim Timons was seen sauntering over toward the store. "I knew he'd come back, for he didn't start out right. He got to disenchanted and grumbling about everything up here. Nothing was right, nothing was even tolerable. Our season has been pretty wet, and Jim said our region wasn't fit for frogs to live in. Our winters are pretty cold and raw, and Jim said there was no use of being cooped up here in misery when one might just as well be where halcyon breezes blow."

"Our land isn't the richest in the world, but Jim said there never was hardly enough soil to cover the hardpan, and all it is naturally good for is to raise mud and mullein."

"Jim forgot that, after all, we do get our barns and cellars comfortably well filled, that we have a few pretty fair roads, that the boys have a mighty good swimming hole just above the bridge, that there are a lot of rather pleasant homes scattered about when you come to count them, and over all a lot of old history and memories that brood kind of tenderly over us."

"Sure enough, there are lands that have better soil, and places where the climate is milder and in some ways better; but the feller who doesn't see some good here won't see any good anywhere. As the preacher said last Sunday, in talking of losses and sorrows, 'there is oftentimes great compensation in Nature. All good things ain't crowded into one place.'

"For another thing, Jim went away without getting ready. He didn't know just where he was going nor have any idea what he would do. To his mind the great Southwest was a great paradise. The billowy fields were smiling and the golden sky was laughing. He knew without asking that there was plenty of room, and he really wondered that everybody didn't pack right up and move down."

"Well, Jim found the bright skies and the rich plains—only they mostly had a strange kind of level loneliness. The small towns were far apart, and many of them seemed to be born before time and to be having a struggle for existence. But when Jim got to the big towns he was lost. He found several thousand people there before him on his same errand—men who hadn't any money to speak of, who wanted to find a profitable job, and enter into the full joys of the land of their dreams."

"A man needs some good friends, or something to give him hope and courage, when he strikes a strange land. At best it is a painful process to adjust oneself to new scenes and associations in life. It takes a little time for the average immigrant really to be himself, and he should wait a while before he makes any new decisions."

"As for Jim, he got dreadful lonesome."

The sun shone fine while he was there, but he never saw it. Nobody but the land agents was glad to see him, and he ceased to interest them when they found he hadn't money and didn't want to buy a farm.

"In fact, Jim found himself friendless and adrift in the most intense money-getting crowd he ever met, and he got that supreme sickness of the soul which we call homesickness. Keep him away from the old home? Why, the cars couldn't run fast enough getting him back."

"Not altogether against Jim, either," added Jonas thoughtfully.

At this juncture Jim came over to the shed, and the company greeted him heartily. One of the boys asked what he thought of the new country.

"Well," said Jim, "I don't believe if the average man from Beaver Creek were to visit that region he would be in a hurry to move into it. It has a better soil than ours, and the climate surely is milder—though it has some serious drawbacks. But a man who hasn't got money had better stay here till he makes some. And if he don't know just the people he is going among he had better take some of his neighbors along for company."

"If I could pick up Beaver Creek and drop it down six hundred miles further south, I have often thought I would," said Jonas, "but I can't."

"There will be some good homes down where Jim has been, don't forget that. And, after all, it all resolves itself into the making of a good home. If one only has a homestead fitted to his comfort—and that means fitted to our climate more than we have yet attended to—and some work to do that makes things better, and a lot of neighbors—not too familiar—that he knows would stand close to him in any trouble, he ought to be pretty contented for this world."

"Our surroundings have a vast deal to do with our enjoyment, and often we strangely forget or neglect them. I could move myself to a tropical island, but I couldn't move a Sunday morning in the old church, nor the maple knoll, nor the old spring, nor the old paths where Jessie and I used to walk."

That was the end of the talk, for when Jonas spoke of Jessie he always grew silent, and pretty soon walked away. Jessie was his wife, who had gone lovingly away to a better land years ago.

TOMATO PLANT RACK

I think FARM AND FIRESIDE gets better every year. Hoping to help some of your subscribers, I herewith send my plan of putting up racks to support my tomato plants, which I have been using for several years. I have tried many plans, but have found this by far the most convenient I have seen or tried. I also use stake supports to tie up to and trim for early tomatoes, but for general crop I like the frame better.

I take one-by-three-inch strips, four and one half feet long, and sharpen one end to drive into the ground to the depth of fifteen inches (using a dibble of the same size to drive into the ground to make the hole first), and nail on three strips ten, fourteen and eight—



bottom crosspiece is one foot from the ground.

With care these supports will last for several years if taken up and stored away in the winter.

R. STOKES SAYRE.

HAVE WE PASSED THE ZENITH OF OUR INDUSTRIAL EFFICIENCY?

A highly significant article on this question appears in a recent issue of the "Arena." The writer, Mr. J. W. Bennett, analyzes a recent bulletin of the Department of Commerce and Labor, and comes to the conclusion that American labor, particularly our manufacturing population, has become impaired in its



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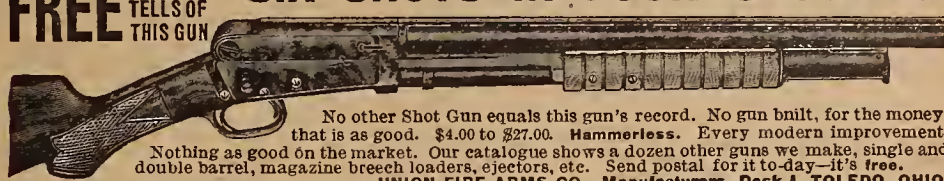


No. 315. Light Extension Top Surrey. Price complete, \$73.50.

No. 653. Top Buggy with Late Style Stanhope Seat, Buggy Gear and 1 1/2 in. Guaranteed Cushion Tires. Price complete, \$73.00.

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No other Shot Gun equals this gun's record. No gun built, for the money, that is as good. \$4.00 to \$27.00. Hammerless. Every modern improvement. Nothing as good on the market. Our catalogue shows a dozen other guns we make, single and double barrel, magazine breech loaders, ejectors, etc. Send postal for it to-day—it's free. UNION FIRE ARMS CO., Manufacturers, Desk 1, TOLEDO, OHIO.

efficiency. Briefly summarizing his article, we find that, according to his view, all manufacturing industries show decreased efficiency, because there is less value produced per worker; more capital is used per worker; more expensive and less efficient superintendence is now necessary; less net value is produced per \$1,000 capital employed, and because miscellaneous expenses are a great deal higher.

"There is an unmistakable retrograde movement. It is accompanied by the greatest consolidation era in our history. The most vital argument for consolidation is increased economy and increased efficiency. Is consolidation along the lines it is now being conducted rather the cause of increased extravagance and inefficiency? Is our theorizing about greater economies in large establishments to be all upset by the cold logic of facts? This brings us to the important question: Why the deterioration?"

The indirectness of our processes, the payment of several profits besides rent, interest and transportation charges, in addition to much waste, are responsible for the deterioration. For instance: In primitive industry food was consumed where it was raised, and clothing was manufactured where the fiber was produced. Labor was direct. We look at a knitting machine and think of the endless number of persons one knitter can supply. But we lose sight of the machine maker, money lender, banker, miner and railroad man, who all participate in that process! Similarly with every conceivable industrial or manufacturing agency. We do not keep in our mind's eye the endless processes that have to be gone through to get to the point of completion, and their waste and cost. Friction is outrunning our inventive genius.

Our efficiency, he asserts, is impaired by the enormous profits which we pay on each of the many processes necessary to create the finished article; in interest on increased capital; rents; transportation; marketing or distribution; by the indirectness of our processes; transportation charges made necessary through railway exploitation; growing depreciation of an increasingly complex and expensive plant; waste; sham capitalization; diversion of the most highly paid executive talent to speculative activities for personal gain; unearned salaries; "red tape," stifling of individual initiative and ambition, and by multiplying non-productive workers and mere idlers.

The age of consolidation has become the age of inefficiency, and with our pitifully small production per worker this is a most serious matter. Then, let us remove the obstacles to better things and improve the kind of organization we have. Organization is right in principle, but that principle to be beneficial must not be restricted for the benefit of a few, but must inure to the whole people. "The few cannot wallow in unearned wealth," says he, "without destroying the efficiency of the many. If we are to maintain a strong, efficient, democratic state we must develop it along the lines of the co-operative commonwealth rather than give our industrial and political organization over to the irresponsible industrial autocracy which we have so blithely and unthinkingly built up."

WOOD ASHES FOR LEGUMES

Wood ashes seem to be especially beneficial to legumes. Ashes contain from forty to fifty per cent of lime which favors the development of nitrogen-gathering bacteria, and then if the soil is deficient in lime they furnish this element of plant food. Besides containing about two per cent of phosphoric acid and from five to eight per cent of potash, ashes contain all other mineral elements that are necessary for plant growth.

The marked effect of wood ashes may be seen where trash heaps have been burned and the field has been afterward sown to clover. The clover will show a much ranker growth for several years, and the greater growth of clover will enable the crop to secure more nitrogen from the air, and so enrich the soil in that costly element of fertility.

A. J. LEGG.



Makes harness proof against heat and moisture. Gives a glossy black finish. Prevents rot. Imparts pliability, strength and durability to leather. Saves bills and mishaps. Keeps a new harness looking new and makes an old harness look like new. Contains nothing rough to cut and chafe. For axle troubles use

BOSTON COACH AXLE OIL

Better and more economical than castor oil. Will not gum or corrode. Lasting, reliable, satisfactory. Highest Award World's Columbian Exposition. Sold everywhere—all sizes.

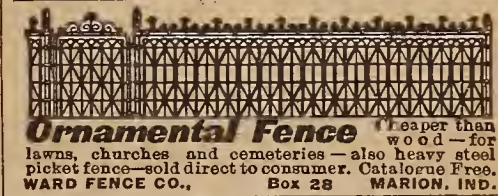
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C. F. A. DISSINGER & BRO. York Co. Wrightsville, Pa.



Ornamental Fence. Reaper than wood—for lawns, churches and cemeteries—also heavy steel picket fence—sold direct to consumer. Catalogue free. WARD FENCE CO., Box 28 MARION, IND.

SPECIAL. Write for circular my 1400 acre Turle Lake, Michigan, tract on easy terms. MRS. NELLIE W. MERRITT, Manistee, Michigan.

IMPROVED COMBINATION DIPPER nine useful articles in one. Perfect bonanza for agents. Price 25c. Catalogue free. THE VICTOR NOVELTY CO., WELLSVILLE, N. Y.

AGRICULTURAL NEWS-NOTES

Russia ranks first in supplying Germany with food products. The United States is a close second.

Ohio nurseries for fruit trees and vines now number 518. The number of acres occupied is 4,975.

At Crookston, in northwestern Minnesota, there is a flouring mill which is turning out one hundred and fifty barrels of durum wheat flour daily.

It pays to plant nut-growing trees. A five-acre English walnut grove at Fullerton, California, was recently sold for \$5,500.

The port of Galveston, Texas, has become the leading cotton-exporting one of the country. The two next important are New Orleans and Savannah.

Recent statistics show that during the eight months ending February 1, 1907, we imported fruits to the value of more than \$16,000,000. Of this amount nearly \$7,000,000 was for bananas.

The agricultural investigations that are being carried on at the experiment stations, at the United States department and at the demonstration farms are making lots of converts to the new and better ways of doing things on the farm.

A five-thousand-acre tract of ground near Webster, Harris County, Texas, is being settled by a Japanese colony. Twenty-seven Japanese families are now en route to the settlement. Their new venture will be watched with unusual interest.

Dr. D. E. Salmon, who for twenty years was at the head of the Bureau of Animal Industry of the United States Department of Agriculture, is now located at Montevideo, Uruguay. He has assumed charge of the veterinary department of the University of Uruguay.

It is of interest to know that "Arbör Lodge," near Nebraska City (the J. Sterling Morton homestead), is to be made an Arboretum that will be a credit to Nebraska and the nation at large. It is destined to be the most complete selection of native trees and shrubs west of the Mississippi River.

SOME LESSONS FROM EUROPEAN FOREST MANAGEMENT

Now that the United States has definitely settled upon a forest policy, it is particularly interesting to note the large lines of result in Europe, where intelligent forest management has been practised for centuries. Raphael Zon, an inspector of the Forest Service, gives the following table:

FOREST AREAS OF EUROPEAN COUNTRIES AS COMPARED WITH THE UNITED STATES

Country	Total Forest Area in Acres	Forest Area in Per Cent of Total Area	Area of Government Forests in Acres	Government Forest in Per Cent of Total Forest Area
Saxony (1895)	924,296	26	417,142	45
Wurtemberg (1895)	1,451,979	33	483,357	33
Baden (1895)	1,352,597	41	243,043	18
Switzerland (1899)	2,110,552	21	93,201	4
Belgium (1895)	1,209,557	17	62,427	5
Bavaria (1895)	5,814,310	33	2,347,399	40
Prussia (1895)	20,314,727	26	6,803,787	33
Austria (1874-93)	23,996,250	32	2,530,000	11
France (1900)	23,367,558	18	2,691,581	12
Roumania (1891)	4,860,000	15	2,430,000	50
Sweden (1898)	49,390,325	49	18,640,800*	38
British India (1898-9)	64,689,300	12	51,192,000	79
Russia (1898)	812,640,600	26	620,190,000	76
Hungary (1885-94)	69,144,300	27	3,512,700	5
United States (1905-06)	500,000,000	26	106,999,138	21

*Of this, 10,062,900 acres belong to the government, the rest is either owned by the government in partnership with other institutions or is merely controlled by the government.

One striking feature brought out by these tables, says "Forestry and Irrigation," commenting on this statement, is the relation which exists between the expenditures for the management of the national forests and the revenues derived from them. We notice that Russia, with its vast forest areas—the greatest proportion of which still remains unsurveyed and unprotected—spends on an average less than seven mills an acre and derives a revenue of only three cents an acre per year, while little Saxony, with a forest area of only 417,142 acres, spends annually \$2.32 an acre, but receives a net revenue of \$3.96 an acre. Russia's low expenditure an acre does not really give a true idea of the actual expenses, because only a part of the forest area is brought under systematic management, while the rest still remains unprotected and uncared for. If, therefore, the expenditures were divided not by the total area of government forests, but only by the part which is actually being managed, the expenditures an acre would appear much higher.

Of all these nations, the United States spends the least for the care and protection of its national forests, and its revenue is as yet less than its expenditures. In the case of the United States it is only fair to say that the policy of the wise use of the national forests has just begun, and there has not, as yet, been time for the proper adjustment of expenditure and revenue. In spite, however, of the short period since the government forests came under forest management, there has been a remarkable change. For the year 1903-4 the revenue from the

forest reserves was \$58,436, and the expenditures \$379,150.40. In the year 1904-5, during the latter part of which the reserves passed under the control of the Forest Service, the revenue was \$60,142, and the expenditures \$508,886, while for the last fiscal year the revenue was \$767,533, and the expenditures \$779,519.29. There is a fair promise that during the next five years the revenue will increase at the rate of \$500,000 annually,

and that the reserves will soon show a large balance on the credit side of the ledger. An intelligent management of forest reserves will, therefore, provide an important source of national revenue.

THE WORLD'S SUPPLY OF COCOA AND CHOCOLATE

A graphic description of the production, from growth to finished form, of chocolate is given in a recent consular report from Guayaquil. Ecuador, it is shown, produces one fifth of the entire world production of this nutritious substance. The figures for all the world are 300,000,000 pounds annually; those for Ecuador, 53,000,000 pounds annually.

The valleys adjacent to Guayaquil produce the greatest quantity of any district in the world. In 1900 there were 4,827 cacao plantations or farms in Ecuador, with a total of 58,551,142 trees.

Guayaquil cocoa has a specialty of its own, both in shape and aroma, and is easily distinguished from the cocoa of other districts. The lower grades are very strong and coarse in flavor, while the better grades contain a larger percentage of theobroma, making them more valuable.

Ecuador's annual exports, in round numbers, amount to \$8,000,000, two thirds of which is cocoa, an article for which a world-wide demand exists and in the production of which Ecuador enjoys a high reputation. The planting and cultivating of the cacao tree is being carried on more extensively here every year, as it is the general opinion that the article has a splendid future and that the present

production is not sufficient to meet the growing demand or consumption. The plantations here are mostly in the hands of natives, many of whom have amassed sufficient fortunes to make Paris their future home. On some of the large plantations very fine residences are found, although the owners as a rule seldom occupy them, preferring to live in the city. Some are also equipped with extensive narrow-gauge railroads.

The United States is the largest buyer of cocoa from Ecuador, having bought, in 1903, 8,850,130 pounds, valued at \$1,206,790, and in 1906, 10,328,694 pounds, worth \$1,457,384. In Europe, Germany gets the largest share. At present cocoa brings about sixteen cents a pound; adding export duties and other expenses, plus a commission for buying, makes it cost about twenty cents here.

It is estimated that the average yield of a cacao tree is about one pound of cocoa a year, giving a planter having a plantation of 50,000 trees approximately 50,000 pounds of cocoa annually. When the cacao tree is in blossom and the pods are commencing to grow the appearance is beautiful. The flowers, which grow in tufts or clusters, are very small, having five yellow petals on a rose-colored calyx. The seeds contained in each pod vary in number from twenty to forty and are embedded in a soft, pinky-white acid pulp. The fruit is five-celled, without valves, from seven to ten inches in length, and three to four inches in breadth, of an elliptic oval pointed shape. The rind of the fruit is very thick and similar to a very hard, tough apple in substance, and has a slightly sweet taste. The cacao tree that produces this fruit is the theobroma cacao and should not be confused with the coco palm that produces the cocoanut that yields a liquid and white meat used as food and for making oil.

STUNTING THE CORN CROP

So much attention has been attracted to the Williamson method of cultivating corn, by allowing a stunted growth to begin the crop, until practically the whole farming world is awaiting the outcome of tests being made over the country. However, we had the notion of trying it beforehand, but the work of Nature has caused us to give it more attention than we had previously intended to do. We now have a couple of fields that we can report results from this year.

There is always one great danger in having a late corn crop in the South, and that danger lies in the effect of a late summer sun on the plant. There are some years when this does not affect the plant, as seasons are good enough to make a crop. Yet in ten years of the work on my own hook in making the great cereal I have always found that it is profitable to have the crop grown and practically made before the heat of summer's sun had its worst effect.

This season the proper application of fertilizer will be put in, and whatever benefit will accrue from the stunting method will be fully demonstrated. Just at this time things do not look promising, but there are a lot of farmers in the community, who are not trying the Williamson method, who have no better than the prospects we possess. It will be very interesting to thousands of farmers throughout the country to have reports on the outcome of the various tests being made, and the result will be watched with

great interest by the professional agricultural world, in order to see how the troublesome times of starting is finally overcome by rapid growth later in the year.

The idea, however, to be maintained all the time in late cultivation is to keep the soil stirred frequently; but let it be done lightly, so that no large roots will be broken. The so-called dust-mulch system is finding great favor in our section, and since it has come into practise the corn crop has been wonderfully increased. One of the principles laid down in the new method is frequent and shallow cultivation in the laying by of the crop, and this will prove one of the bases for success, that if neglected will be an overthrow to all the plans.

T. C. McAULIFFE.

GOOD RULE FOR MEN AND HORSES

A few days ago I was in a livery barn when two men entered and said they wanted to get to a town twelve miles distant in time to catch an early train, and they would have to go pretty fast. They asked the liveryman if he had a horse that would take them there in time. He said he had, if the animal was driven right.

In a few moments he had a slim, muscular road horse hitched to a light rig, and led him out. "Now," said he, "jog him the first mile, then trot some the next mile, then go it!" In due time the men telephoned back that they had made the trip easily, and the horse seemed good for double the distance.

I said to the liveryman: "If your instructions about the first mile or two are good for a horse, don't you think they would be equally good for a man?"

"Sure!" he replied. "If you want to do a big lot of work in a day, begin slowly. Don't do much of anything before breakfast—just a little light choring. Eat slowly, then begin your work easily, and don't get under full headway for an hour; then you can sail in, and you can do twice as much as you can if you begin with a rush, and you will feel well at the end of the day."

I had known this for years, but this liveryman had learned it from his horses. It is a good rule for both men and horses.

FRED GRUNDY.


DON'T BE A "HOLD-UP MAN"

If there is a trolley line being promoted through your neighborhood, don't put up an unreasonable fight on the dogmatic idea that you can "hold up" the company for a large sum of money. We have a progressive trolley line three squares from our home in the country, simply because the farmers along a more prominent pike three miles away put up a big "bluff" and a number of lawsuits. It is all right for the farmer to meet the company upon business terms and to require that a reasonable compensation be paid for right of way and for actual damages; but the endeavor to extort exorbitant damages usually is—and ought to be—resented by the company. If the farmers intelligently see to preserving their property in a businesslike way, the railroad company will usually respect their demands and co-operate with their ideas for improvement. In most cases where trolley lines have been constructed they have added greatly to the enterprise of the community and to the value of property located along the line.

GEO. P. WILLIAMS.

GOOD TEXAS LAND READY TO PLOW

\$8 to \$18 an acre



IF you move now to the Eastern Pan Handle of Texas, just across from Oklahoma, and get one of the good, low priced Mendota Colony Farms, you won't have to work hard clearing the land and getting it ready to plow. **IT'S ALL READY TO PLOW NOW.** No timber or brush to clear. No stones. No swamps. Just a deep, rich, dark loam. Abundant rainfall. Pure water. No irrigating. No fertilizing.

The Colony Farm Homes Association is selling 25,000 acres in the fertile Washita and Red Deer Valleys, all within 6 miles of the new townsite of Mendota, on the main line of the Atchison, Topeka & Santa Fe Railway. This land has never been cultivated because it has been held by ranchmen. Now changing conditions in the cattle business have thrown it on the market. **NOW** is the time to get some of this splendid land, because it's an opportunity that will be snapped up quickly. Those who buy first will get the best locations and make the most money by the sure increase in land values.

The same soil on adjoining tracts is producing bountiful crops. Oats, 60 bushels to the acre. Wheat, 30 bushels. Alfalfa, 5 crops a year.

Prices of Mendota Colony Farms to-day, \$8 to \$18 an acre and terms very easy. **Payments extend over 4 years**, thus allowing farms to pay for themselves, probably before payments are due. Others get a good crop the very first year there. You can, too.

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Making Sanitary Milk

THE condition of market milk, especially that shipped over long distances, has grown to be so insufferable that the consumers rebel against it. The board of health of New York City has declared that there is but a very small per cent of milk received there that is fit for human food without pasteurization, and some so dirty and laden with manure and other foreign matter that even this process will not make it fit. Other cities make the same or similar reports.

The milk forming the supplies for the large cities is so contaminated with disease germs, and has become such a menace to health, that the Secretary of Agriculture, James Wilson, independent of the board of health of the cities, has inaugurated, through the bureau of chemistry and the dairy division, a thorough investigation of conditions under which market milk is made, with a view to securing some sort of regulations that will remedy the trouble by eliminating, so far as possible, the cause.

This, as Mr. Wilson realizes, is a pretty broad undertaking, and one that has to do with every little detail that enters as a factor in the production of milk on the farm—its handling, transportation and delivery to customers. It is the combining of many factors and conditions into one task. However, they have begun with the most elementary, though essential, features of milk making, and this in itself would seem to premise that the results will make for a betterment, whether the consummation of the department's work come soon or late.

However, it should not be left to the Department of Agriculture at Washington to remedy the evils that are born at home. Rather should every individual dairyman appoint himself an investigation and executive committee of one to discover the things that make for an unhealthful quality of milk, and then set about to adjust his conditions to the point where he is able to produce a first-class article.

That is the way, and the only way, by which we may ever expect clean milk to come. But how long, oh, how long! will it be before this millennium of pure milk will manifest itself unto us?

and adopt the necessary precautions for making a better grade, especially for the price received.

To such farmer I would say that if you will make a better quality of milk, and assure your customers that you intend to continue making it, and even better, that the price will take care of itself. Make a good quality of clean milk and you will soon be able to get a higher price for it. That has been the experience of others in the recent past, and there is no reason why it should not be yours.

One of the plans now being worked by the Department of Agriculture is to "score" the dairies furnishing milk to certain cities, notably some of the larger cities of Ohio, Indiana and Illinois. They have arranged with the dealers to pay a higher price for milk from dairies that "score" under inspection above a certain per cent, and the amount of the increase is determined by the over and above "passing grade."

When one farmer succeeds in bringing his dairy to the "higher price" standard it will not be long before his neighbors will make an effort to meet the requirements for the advance. And so it may be that the better milk era will come largely as a matter of example and emulation. If it does, so much the better. It

and care and expense is no greater in a small dairy than in a large one. The same details are essential of observance in any event. The question as to whether or not it costs more to produce a quart of milk in a small dairy than in a large one is not considered here: the quality and condition of the milk will determine its value, and likewise the profit to the producer.

I have found, both in operations in the government service and in private establishments, that the first thought of the careful dairyman should be the condition of the animals; the "personnel," if you please, of the herd.

Every individual should be selected with an eye, first, to her physical condition, her productive and reproductive ability and vitality, and, fully as important, to the quality and quantity of her milk product.

No cow that is not in perfect health, however great her catalogued money value, should be placed or retained in a herd, and no dairyman who runs his farm for a living and profit will keep a cow in his herd whose producing capacity does not yield a profit on labor and feed and capital.

With the first development of any least symptoms of disease or sickness, isolate

feed to suit her apparent needs, particularly as to oil meals and bran. Her ration should be proportioned at all seasons according to her product at the pail, her weight and with relation to her period of lactation, giving lighter and more easily digested foods at the approach of parturition, for the purpose of keeping her bowels free and her blood clean and in good circulation. This is a point too generally overlooked and probably leads to more trouble in the health of the herd than any other one thing.

An ample supply of pure, fresh water is an essential of as much, if not more, importance than feed, since it is one of the main perquisites of a full flow of milk and a leading factor in the maintenance of her health.

Too much attention can scarcely be given to the care of the stables as to cleanliness, not only of the floors and partitions and the animals themselves, but of the air, as well; and that calls for good ventilation.

While the cement floor is generally conceded the ideal one for the dairy stable, it is by no means the only one that can be kept clean. I have seen common earth floors, properly tamped and surfaced, kept as clean as some people's kitchens; although in some instances I have re-

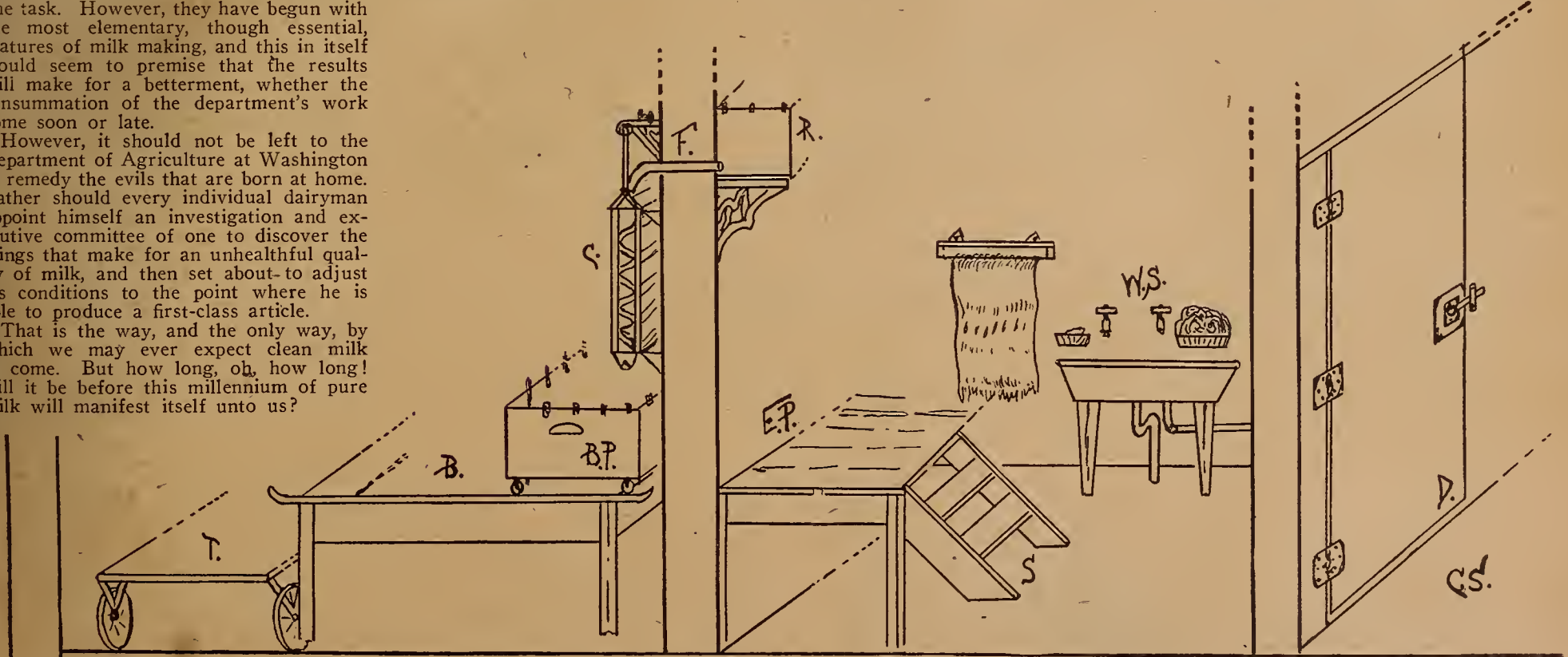


FIGURE No. 1.

So long, we may be sure, as the dairy farmer is careless of the health and vitality of his herd, the purity of his water supply, the quality of his feed, the condition of his stables, the cleanliness of the milkers, the care of his utensils, the matter of the rapid cooling of the milk after drawing, the handling and storing before delivery and the method of delivery to the customer. And each one of these is but one essential part of the work of milk making.

The farmer generally offers as an excuse for the poor quality of his milk that prices for feeds have increased and the wages of labor have gone to such a point that he cannot afford to take the trouble

will be the kind that has come to stay. You want to know how to make an extra high grade of sanitary milk? Very well, I will tell you. But it isn't any secret that I am to reveal. The secret of making clean milk is to make milk in a clean way; that's all there is to it, and all there is to do is to be and keep things clean.

"Clean, clean, clean." That is the motto that must be written large over all the dairy farm, from the pastures to the milk room.

In describing the methods of handling a thousand quarts of milk a day in a large dairy it should be said in the beginning that the proportionate ratio of trouble

the animal from the rest of the herd and keep her milk from the market until she regains her normal condition. Use, according to the season, either an airy box stall or little pasture lots provided with shade, shelter and plenty of pure, fresh water, where extra care and attention can be given at all times.

With proper care very little trouble will be experienced in keeping the cows in a state of perfect physical health when they are on good pasture with an abundant supply of pure water. During the confinement of winter, however, they should have constant individual attention, both by the milker and the herdsman, adjusting the proportion and amount of her

marked that the stable would not benefit by the comparison.

When on pasture the stables should be cleaned thoroughly night and morning, first with shovel and scraper and brush and then with the hose, flushing the stall and back floor to the gutter, while the specks on walls and posts should not be overlooked. After cleaning, a liberal sprinkling of land plaster should be scattered over the floor space and in the gutter and covered lightly with sawdust. This removes all odors and makes the atmosphere sweet and pleasant to the smell, rather than repulsively odorous of manure and urine and cow taints.

The stables are kept well whitewashed,

once a month when necessary. Before milking, the cows are brushed, the udders washed and wiped dry, and the air sprayed to lay all dust, dry hay and other dusty feeds being handled in the feeding alleys only after milking.

As often as necessary—once a week in summer, or in damp, muggy weather—the stables and milk-handling rooms are disinfected with formalin. Some use a manufactured fumigator, although any vessel over an oil stove in which water can be boiled will answer the same purpose.

To make clean milk the milkers must be clean both as to clothes and person. On coming from the fields and in the morning before milking the men wash their faces and hands thoroughly, remove their working clothes and put on a clean duck suit, including cap. The pails, inverted on open racks outside during the day, are rinsed in running water. The milking stools, painted, are washed every day. A clean cloth for wiping the udders and teats is furnished the milker. Thus equipped the men enter the stables without any unnecessary noise, approaching the animals with low-spoken word, a pat on the rump and a light stroke on the flank as they seat themselves, first brushing the teats and lightly manipulating the udder before placing the pail.

This is all done so quietly that the cow is undisturbed, and usually continues to chew her cud contentedly. The first "squirt" of milk from each teat is drawn on the floor, to obviate the millions of germs it contains, and then the milking is completed as quickly as possible, the hands being kept perfectly dry all the time.

To prevent the cow from prematurely

where it empties the milk into the top of the cooler, "C," and this, in turn, empties into the pan of the bottling machine, "B P," on the bottler table, "B." A strainer is hung under the cooler, and this has three layers of absorbent cotton placed between double thicknesses of cheese cloth, two pieces of which are also fastened over the top of the bottler pan. The milk is bottled as fast as it comes to the bottler, is immediately sealed, placed in crates on the truck, "T," and carted in to the ice boxes of the dairy room proper, as shown in cut No. 2. The milk to be shipped or sold in cans or for other use without bottling is run into cans instead of the bottling pan, and is then placed in the cold-storage tank at the rear of the bottling room.

Since the milking pails are covered with cheese cloth and absorbent cotton over the receiving strainer, it will be seen how well the milk is guarded against contamination with floating germs and any foreign matter; and as it is cooled and sealed in bottles at once, it is further protected and insured against souring.

After milking and emptying the pail the milker is required to again wash and dry his hands and rinse his pail before milking another cow, and a wash stand, "W S," is provided in the weighing room for that purpose.

Large drain tiles are laid under the milk-handling rooms and connect with sinks placed in the middle of the floor, as shown in Fig. 2, the floors being of cement and sloping to the center.

The milk to be made into butter, or separated before use, is run over the cooler without the ice water, for the purpose of aerating, and is then emptied into a receiving pan, similar to the one indi-

The whole arrangement of the plan for the milk-handling rooms is made with a view to having the various machines, utensils and rooms as handy as possible with relation to their position one to the other. While windows are not indicated, there is a number of these placed so that they will afford the greatest inlet of light and air.

The small dairyman will, probably, not need such an elaborate equipment, but the plans here shown will give a good idea of what such modified plans as he may adopt will give the best arrangement.

R. M. WINANS.

PLANTING FOR FUTURE ORCHARDS

The outlook at this writing is bad in some respects and most flattering in others. Here in the famous fruit region of western New York whole orchards of apple, pear and peach trees that had as yet received no treatment for the San José scale have gone down.

The big blocks of Rhode Island Greening apples have suffered especially, and in many of our large orchards hereabouts not a tree of that variety has survived. Baldwins have fared somewhat better, while King and Spy have hardly been touched by the scale. Even trees here and there that have been sprayed with petroleum in several seasons or every other year have wholly or partially succumbed to last year's unprecedented scale attacks.

But every apple tree, and every pear and plum tree that had any life left, has been or still is covered with bloom, giving at least a promise of a phenomenal fruit crop, notwithstanding the spread of the scale. Whether the apples and pears and plums will set and bring a crop of fruit to maturity and to perfection can at this time not be safely predicted. We have at least hope and anticipation and promise. Some of us are trying to keep the scale in check by spraying, and we may not have a season equally favorable, as was the last, for the spread of this pest, in many years. Most farmers around here, however, have familiarized themselves with the idea that the trees are going, and that soon there will not be a large apple tree left standing.

A neighbor who found me chopping down some of the killed apple trees asked me: "Are you going to set new trees to make up for the dead ones?"

This is the leading question. Shall we continue to plant trees, or give up? I do not propose to be scared out quite so easily. There is many a slip betwixt cup and lip even for the San José scale. This insignificant insect may imagine it has and holds undisputed sway. That may be the case in some orchards, in fact in the orchards of the great majority, where it may spread at pleasure unless

the tree with the spray. Then if we spray in spring with lime-sulphur wash or with crude petroleum, and yet see scale multiply during the summer, we may have to give a summer treatment with one of the miscible oils. Only the coward gives up. If we keep up an intelligent fight, we shall conquer in the end.

T. GREINER.

IRRIGATION AS A SOCIAL FACTOR

Irrigated farming, in controlling and directing natural forces, permits the greatest variety of products. It preserves the fertility of the soil, leading of necessity to intensive cultivation, to small farms and to well-settled communities.

Discussing pleasantly the problems of a social nature arising out of irrigated farming, Willard M. Sheldon (in the "Sunset Magazine") says:

"It offers a promising field for the ambitious. It secures an assured competency for one's labor with environment appealing to the social desire and permitting of such attractiveness and harmony in rural life as satisfies the artistic sense. All of which has been and is being realized in the irrigated sections of California, as witness the pleasing and convincing evidences in the beautiful and prosperous rural homes throughout the southern counties and along the newer irrigation canals in the San Joaquin and Sacramento valleys. It is certain that the highest form of production, and the best in our civilization, progresses along the lines of irrigation canals. The beautifully ideal rural homes of Redlands, Riverside, Pasadena, Los Angeles, Fresno, Merced and Stockton, with their wealth of foliage and profusion of flowers, are all the more satisfying from their credit balance at the end of crop season.

"The conditions are attracting and should attract the best brain and brawn of the East, as witness the present population of the seven southern counties, estimated at six hundred thousand, as compared with a population of thirty-five thousand in 1870, which date marks approximately the era of larger irrigation development. The same ratio of increase is also observed throughout the other irrigated areas, accompanied, too, by returns justifying the rapid growth. The southern counties, with about two hundred and fifty thousand acres irrigated—the basis of principal production—are supporting a population of six hundred thousand people. They have an assessed valuation of nearly \$500,000,000 and are marketing products from the irrigated area of over \$35,000,000 annually, or about \$150 an acre per annum.

"What has been done in the southern counties is being accomplished in the great valleys of the San Joaquin and the Sacramento. With a greater acreage of excellent soil, similar climatic conditions

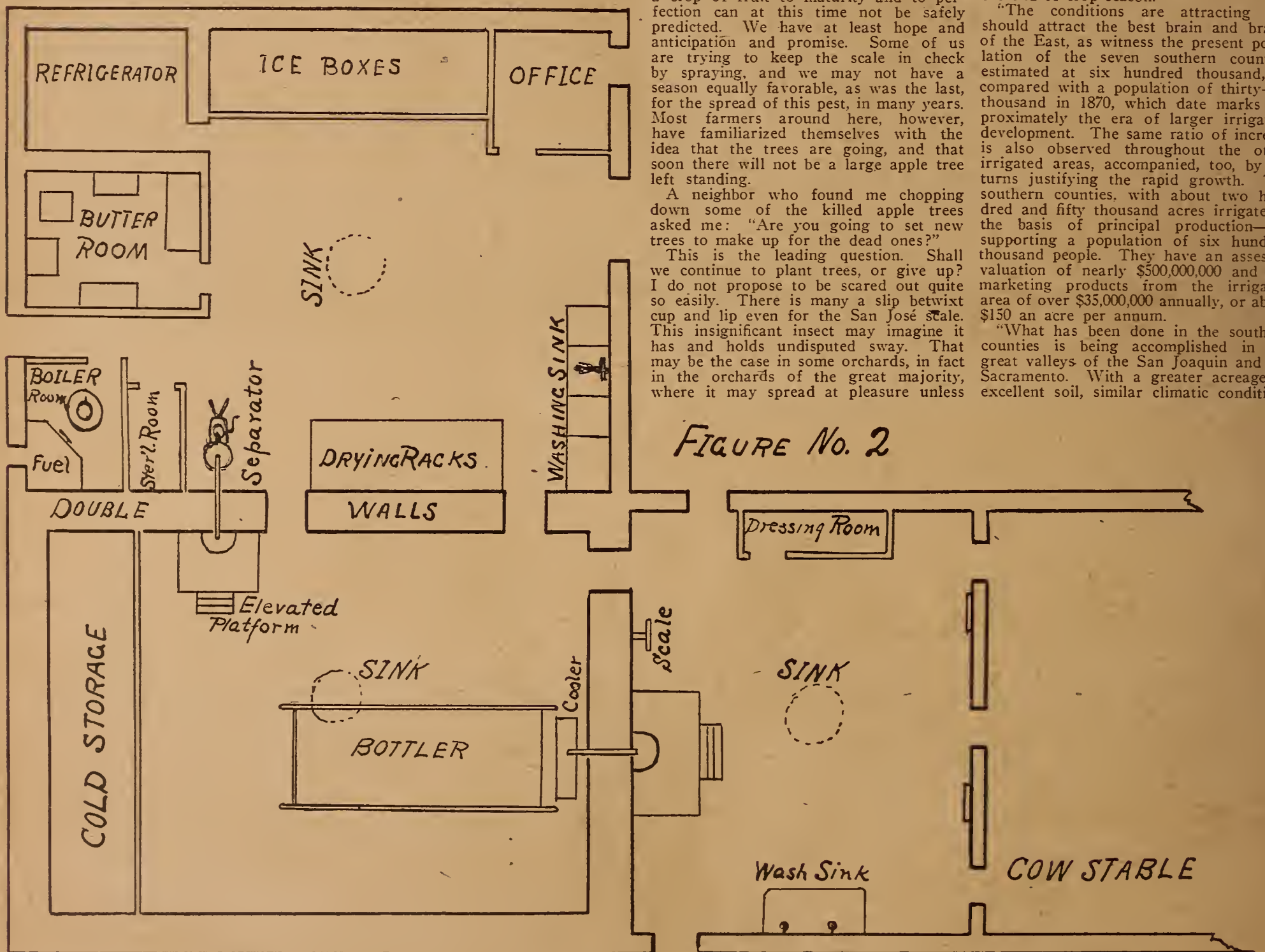


FIGURE No. 2

"drying up," the milker is required to leave the udder practically "dry," free and clean of milk. Care in proper stripping tends to keep the cow's milk flow up to the highest all the time.

After milking, the milk is carried out of the stable to an adjoining room, where it is weighed, the weight recorded, and it is then poured into a receiving can, indicated in cut No. 1 by the letter "R." This is reached by mounting the elevated platform, "E P." The can "R" is covered with several thicknesses of fine-meshed cheese cloth, held in place by spring clothes pins. A pipe, or tin tube, "F," removable for cleaning, leads through the wall into the cooling and bottling room,

cated in Fig. 1, from which it empties into the separator can in the dairy room.

The boiler is placed in a corner room, with the sterilizing room adjoining, to get live steam. The refrigerator, in which is kept the ice supply, is in the opposite corner, handy to the boxes in which the bottles are packed in cracked ice. The butter room contains the ripening vat, churn, butter worker, printer and Babcock tester.

The washing sink is in compartments—the first on the left for soaping and soaking, the next for the bottle washer, the next for rinsing and spraying and the last for draining racks—while the drying racks are just at the back of the operator.

severe winters or other natural agencies inimical to the scale come to the shiftless grower's relief. It may not be possible to save our larger apple trees, as it is a big job, and often most difficult, to spray them so thoroughly that they are entirely cleaned and cleared of the pest.

Yet we must have fruit next year, and the year after, and year after year, and in order to have it we must plant trees, and the more trees we lose, the more we must plant. Doucin stock for our apple trees may be our salvation. We must try to keep our apple trees, as well as other trees, low down and compact, so that we can easily reach every part of

and larger available water supply readily and more economically diverted, it is clear that these valleys have a marvelous future for the farmer and professional man, and for the student of economic questions.

"The great irrigation works in process of construction by the national government and the arrangement of details calculated to build up small farms is the greatest piece of progressive and sound economic legislation of recent years. Its guarantee of profit to the farmer, of improved social conditions and attractive homes will stimulate the 'back to the farm' movement and make for the preservation of the mental, moral and physical excellence of the people."

BREEDING ALFALFA

IN past years much work has been done in plant breeding, most of the attention having been given to grain crops. The results that Professor Hays has secured with wheat, oats and barley in Minnesota will have a lasting effect, and the increased yields of grain that the farmers are enjoying means much to that state. The work that Professor Holden has done with corn in Iowa likewise has its good results. But now we must turn our efforts to the other farm plants that are just as valuable, but have attracted less attention.

Alfalfa is rapidly coming into favor as a forage crop. Several years ago we found it only in some localities in the West; now it is scattered from the Atlantic to the Pacific oceans. Considering the immense acreage devoted to this crop, it behooves the plant breeders to give this plant some consideration—that is, to study the nature of the plant, especially its weakness, and then improve it. The reason why this plant has been neglected more than any other of our farm plants is perhaps that it is very difficult to work with, due to the fact that insects are required for the pollenization of the flowers.

The Colorado Experiment Station has devoted a large amount of time to the study and breeding of this great forage plant, and the present indications are that within a few years an entirely new variety of alfalfa will be established.

HOW THE WORK IS CARRIED ON

About one acre is devoted to what is termed the alfalfa nursery. Here the plants are grown in hills, three feet apart each way. This is done that the individuality of the plants may be studied and the selection of the mother plants eventually made. In the accompanying cut one can readily see the great difference

then dried and the air-dry weight was taken. The following figures are the results of the work:

	Plants as Fig. 1	Plants as Fig. 2
Weight of green plant.....	291.7	227.7
Weight of dry plant.....	82.2	67.6
Per cent evaporated.....	72.0	70.5
Weight of green leaves.....	179.2	114.5
Weight of dry leaves.....	46.6	31.1
Per cent dry leaf to stem.....	56.6	46.4
Per cent dry stem to plant.....	43.3	53.5

From the above table we find that the less leafy plants evaporate the least,



ALFALFA PLANT NURSERY

hence they are not as succulent as the others and must be more wiry and woody and contain more fiber which is indigestible. The most important fact, however, is that the per cent of leaf to the stem is 10.2 per cent in favor of such plants as Fig. 1.

Let us suppose that we have two fields of alfalfa, one composed of such plants as Fig. 1 and the other as Fig. 2; let each field yield alike, 8,000 pounds to the acre. Using the above figures we would get the following results:

	Total Yield	Leaves	Stems
Figure 1.....	8,000	4,536	3,464
Figure 2.....	8,000	3,720	4,280

Taking the analysis of the leaves and the stems and applying it to the actual yield to determine the food value we get the following results:

	Crude Protein	Carbo-hydrates	Crude Fiber	Value of Protein
Hay from Fig. 1	1,323.1	2,815.8	2,471.8	\$43.66
Hay from Fig. 2	1,173.7	2,712.7	2,819.6	38.73

The above calculations are made upon one acre of alfalfa. The protein in the more leafy plants gives us \$4.93 more food value an acre. The increased carbohydrates and the decreased crude fiber should also be taken into consideration, and making a rough estimate, we would gain about \$5.25 an acre in food value from the improved alfalfa. These figures are perhaps a little high; they represent what can be done under ideal surroundings. To be conservative, let us assume that we can accomplish only one half of this under ordinary conditions, and even then with the acreage of alfalfa in the United States it would mean millions of dollars to the farmers.

FRITZ KNORR.

FALL PASTURES

Fall pasture is very important for the stock farmer. If the stock have plenty of pasture they go into the winter in prime condition and go through the winter in better flesh than if the pasture had been scant and they had started into the winter in poor condition.

Orchard grass makes good fall pasture. It may be sown in September, after the wheat is sown, at the rate of fifteen pounds to the acre; but if you have neglected to sow grass seed with a view to fall pasturing, sow some quick-growing plant.

In August, sow a patch of rye. It will make pasture until freezing weather comes, and then be an early pasture in the spring.

For hogs, sheep and beef cattle rape makes a good pasture. If the land is reasonably rich it makes a large amount of feed, and will be found profitable sown on thin land if well manured. I prefer to put on manure after the land is plowed, then harrow it in well and sow about three and one half or four pounds of seed to the acre and harrow it in. If

the season is not too dry the rape will be ready to pasture in six or eight weeks. June or the first of July is the proper time to sow the seed. Do not turn in on it when the dew is on, and it is best to turn the cattle on the rape pasture when they are almost filled with grass, and leave them in only about half an hour the first day, gradually increasing the time until they can eat it at liberty.

If the stock are kept off when it is frozen until after it is thawed out well it does not hurt it much to freeze; but if bothered when frozen it will turn dark and is then worthless.

If rape is sowed early in the spring

this year. He desired a stand of two to three stalks to the hill because the season was late and the ground a little wet, so he had planted three to four grains in a hill. The seed did not germinate well because of wet and cold weather, and over half the hills have only one plant in them, while many have none. Had he dropped in seven to ten grains he could easily have thinned out the plants, as I did, and would now have a full stand instead of less than one half.

He is like thousands of other farmers who fail to obtain a good stand of corn. They seem to be so fearful that they will get too many plants in a hill that they put in only three or four grains. That it is very much easier to thin out plants than to put more in does not appear to enter their minds. Every year I see farmers going over their fields with a hand planter or hoe, replanting hills that are missing. Such replanting rarely pays for even the seed used, much less the time required. If they had planted twice the quantity of seed in the first place they could, by thinning out, have secured a perfect stand—the exact number of stalks in each hill their experience has shown to be about right. All who have adopted the method of planting thick and thinning out when the plants are fairly out of danger have found it vastly more satisfactory than replanting. And the thinning can be done as easily and quickly as the replanting.

A SUMMER VACATION

Just about this time people who live in cities are thinking of purling stream-lets in the greenwood shade; of breeze-fanned lakes lapping sandy beaches; of moss-covered rocks in deep, cool glens, and some are even thinking of the old orchard, the hollyhock-fringed garden and the fragrant haymow on the old farm. All are counting the cost of a ten or fifteen days' vacation where cool, sweet-scented zephyrs creep over green-sward under the shade of the trees; where thrushes sing and turtle doves coo in shadows, and air and water are pure, and night is so still that one can hear the contented sigh of old Silky as she lies down in the clover to chew her cud. All who came from the farm want to get back for a brief rest and a deep breath of pure air, and thrice blessed are they who can do so. But when you go back go loaded. Not with city finery, voracious appetites and lazy limbs, but with a big bag full of useful things for uncle and aunt and cousins; with a box of appetizing tidbits that country people rarely or never taste; with hickory shirt, blue overalls and a big apron and a determination to do some real old-fashioned work in the field and in the kitchen. Of course you don't do much—just enough to touch up your appetite and get a little color in your face; just a little tinkering about the fences, the buildings and the garden; just a mixing of a few of the dainty puddings and cakes you have learned to make; just a little decorating of the table and rooms with wild flowers and sprays of green; lots of singing, laughing and shouting as the moonbeams creep through the trees in the evening; just enough of all these things to make the folks glad you came, and honestly earnest in their invitation to you to come again and again.

But what about the farmer and his wife? Shall they have no vacation in summer? I have thoroughly tried the vacation business along the line of summer travel, and at summer resorts, and long ago decided that there is no place on earth to spend a vacation amid comfort and ease like the farm home, if it has a fair share of the comforts and conveniences that every farm home should

and kept until fall for pasture it will be leathery and not so nutritious, and the stock will not eat it so well as when put on it while it is tender.

Lambs may be fattened on it for market with no grain feed at all, while hogs should have slop and some grain to finish them for market.

F. K.

PLANTING CORN IN ROUGH LAND

I had a piece of land in such a peculiar condition the past spring that I was unable to get it in good condition for planting corn. It was both hard and rough. However, I decided to plant it, as it is quite fertile, and then work it into better condition as soon as the plants appeared. The boys were instructed to put seven to ten grains of good, sound



THREE TYPES OF BRANCHES AND LEAVES

seed in each hill, and to cover very lightly. About ninety-eight per cent of the seed germinated and came up, despite the wet, chilly weather. By working the soil as soon after showers as it was crumbly I have gotten it into excellent condition and the plants are growing rapidly. We



GROWTH OF TWO VARIETIES OF ALFALFA TWO WEEKS AFTER FIRST CUTTING

thinned it to four strong plants to the hill, and the stand is perfect, not a hill missing. I showed it to a neighbor who had laughed at me when I informed him that I intended to plant corn there and he was astonished. He said he had made a great mistake in his corn planting

have. Vacationers seek pure air and water, good food, rest, quiet and comfort. All of these can be had on the farm by the farmer and his family, and a month of them at less cost than six days at a "summer resort."

FRED GRUNDY.



FIGURE 1

in the individual plants, but as we single out the plants the difference is still more apparent. Figures 1 and 2 show two distinct types of alfalfa as they are found in the nursery.

The next question is, can we duplicate these types of plants in the field, or is this great variation due to the fact that the plants grew isolated. An investigation proved that we could duplicate every type of plant in the field.

What would be the result if we could grow a field of alfalfa composed of plants as shown in Fig. 1, with special reference to food value, for as yet we cannot make any determination as to the yield.



FIGURE 2

By chemical analysis made of the various parts of the plant we find the following:

	Ash	Ether Extract	Crude Protein	Crude Fiber	Nitrogen Free Extract
Leaves....	14.29	2.94	24.33	13.12	40.70
Stems....	4.91	.94	6.31	54.40	28.03

By the above table we find that we have nearly four times as much protein in the leaves as in the stems, and it is the protein that gives value to a food. The stems contain over four times as much crude fiber as the leaves, and only about one half of the stems consumed are digestible.

In order to determine the exact difference between the two types of plants, a number of them were harvested individually. The entire plant was weighed, then the leaves were plucked off and weighed, in order to determine the per cent of leaf to stem. The leaves were

DO MORE EXPERIMENTING

FARMERS should do more experimenting, and will make more money if they will let go of some of the old ideas and customs and branch out a little. For instance, why not see how much pork can be made from a bushel of corn or its equivalent in other feeds? We have tried this many times with excellent results. We once had a very thrifty bunch of pure-bred Poland-China shoats that were running on clover pasture in the fall and were fed all the pumpkins they would eat. They ate considerable clover and some of the pumpkins. Their main feed, however, was shelled soaked corn, wheat shorts and sweet skim milk. The feed was weighed out, and the shoats were also weighed at the beginning of the trial and at the finish. No charge was made for the pumpkins and clover. The other feed was charged to the shoats at twenty cents a hundred for the milk, ninety cents a hundred for the shorts and forty cents a bushel for the corn, which was market price at the time. They were given all this food they would eat, which was reduced to a corn basis of forty cents a bushel; that is, the value of all food consumed would buy a certain number of bushels of corn. At the close of the trial it was found that the gain made was at the rate of fourteen pounds of live weight to the bushel of corn, which is a very high gain and can only be accomplished under the most favorable conditions of feed, care and thrifty shoats.

Such a gain cannot, of course, be made on corn alone, but the money that a certain number of bushels is worth, invested in corn, shorts, milk, etc., will make a far greater gain than any single feed fed alone. Pork was worth five dollars a hundred at the time, so that the corn sold for seventy cents a bushel fed to the hogs, while it was only worth forty cents on the market. Of course the clover and pumpkins helped wonderfully; at least the clover did, for the shoats had been on clover all summer, and had been given plenty of skim milk and shorts, consequently they were rangy and in fine condition to lay on flesh fast under heavy feeding. Then, too, the weather was delightful and the shoats pure-bred.

If a farmer believes that a silo is a good thing, but is not quite certain, it will pay him to visit some farmer who has one and to note how greedily the cattle eat the silage, what a fuss they make when it is being put in their mangers, and how impatient they are for this feed. Then he should notice how they go for it and that it is all eaten up without a particle of waste. He will also notice the fine, sleek appearance of all the cattle getting ensilage. The hair will be smooth and glossy, the eyes bright, and with a contented, happy look. Next he will discover that they are giving lots of milk and that silage is easily fed, always ready and prepared, and always succulent and palatable. After such observations he may take a look at the silo, and if all right, pattern after it in building one for himself. A visit of this kind is not exactly an experiment, but it will pay big interest and make a silo advocate of any observing, thinking man.—The Wisconsin Agriculturist.

DEHORNING CALVES WITH CAUSTIC

The English board of agriculture gives the following direction for the use of caustic potash: "Clip the hair from the top of the horn when the calf is from two to five days old, slightly moisten the end of the stick of caustic potash with water, or moisten the top of the horn bud, and rub the tip of each horn firmly with the potash for about a quarter of a minute or until a slight impression has been made on the center of the horn. The horns should be treated in this way from two to four times at intervals of five minutes. If, during the interval of five minutes, a little blood appears in the center of the horn, it will then only be necessary to give another very slight rubbing with the potash."

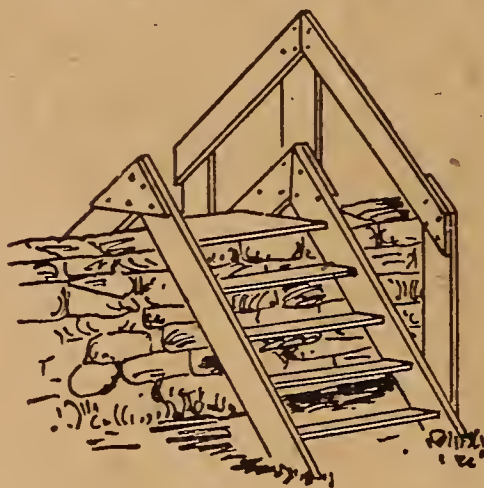
The following directions should be carefully observed: The operation is best performed when the calf is under five days old, and should not be attempted after the ninth day. Caustic potash can be obtained from any druggist in the form of a white stick; when not in use it should be kept in a stoppered glass bottle in a dry place, as it rapidly deteriorates when exposed to the air. One man should hold the calf while an assistant uses the caustic. Roll a piece of tinfoil or brown paper around the end of the stick of potash which is held by the fingers, so as not to injure the hand of the operator. Do not moisten the stick too much, or the caustic may spread to the skin around the horn and destroy the flesh. For the same

reason keep the calf from getting wet for some days after the operation. Be careful to rub on the center of the horn, and not around the side of it. Caustic potash is poisonous, and must therefore be kept in a safe place.

Bear in mind that the potash burns after you are through with the operation, and that some calves have thin skin and others thick, so that it takes a little experience to determine just when to stop the application of the potash, but it is by far the best way to dehorn.—The Farm Press.

A STILE FOR A LOW FENCE

A farmer writing for an Eastern paper has furnished the accompanying cut and description of a stile to be constructed over a stone fence. In Wisconsin we have comparatively few stone fences, but we do have countless barbed-wire fences which are exceedingly



hard to climb over, under or through. Oftentimes a gate is not provided even where necessity seems to dictate, and in such places the stile is a satisfactory substitute. This stile has been furnished with a railing, which adds to its convenience.—The Wisconsin Agriculturist.

GRINDING CORN FOR HOGS

As corn becomes higher in price the stock feeder investigates the propriety of getting the greatest amount of gain in weight for the least amount of feed. Experiments have been made to ascertain the difference between the value of whole grain and cornmeal for hogs.

For the past nine years the Wisconsin Experiment Station has been conducting experiments to determine whether grinding corn for hogs is desirable. In the tests previous to 1903-4 middlings were fed with the corn. That year the corn was fed alone, but the results were so unsatisfactory as regards thrift, appetite, gains and feed consumed per pound of gain that it was not considered desirable to omit the middlings in subsequent years.

The results have varied a little from year to year; but considering the average of all the tests, 117 hogs fed dry shelled corn and wheat middlings made an average gain of 96.8 pounds each, while an equal number fed cornmeal and wheat middlings gained 110.9 pounds each, the feed required per pound of gain in the two cases being 5.19 pounds and 4.83 pounds. The saving from grinding, therefore, has amounted to 5.7 per cent.

Whether it will pay to grind corn in order to effect a saving will necessarily depend on two factors—the price of corn and the cost of grinding. When these factors are known the possible saving from grinding can be learned from the following table:

Value—	25c	30c	35c	40c	45c	50c	55c	60c	65c	70c
Amount saved, cents—	1.4	1.7	1.9	2.2	2.5	2.8	3.1	3.4	3.7	3.9

When corn is worth only twenty-five cents a bushel the saving from grinding amounts to only 1.4 cents—not enough to pay for the grinding unless cheap power is available. As corn advances in price it will be noticed that the saving per bushel increases practically three tenths of a cent with each five cents advance in the price of corn. Should the price of corn be as high as seventy-five cents a bushel, the saving by grinding would amount to a little over four cents a bushel.—Iowa State Register and Farmer.

Review of the Farm Press

DETERIORATION OF WHEAT

In considering the question of deterioration of wheat there are a number of points to be taken into account, affecting the producer, the miller, the baker and the consumer. Deterioration may take place along a number of different lines. Each has its particular causes, and each has a definite relation to the ultimate value of wheat. The farmer is concerned with the yielding power, hardiness against unfavorable weather conditions, and resistance to rust and other diseases. The miller looks at the plumpness, hardness, size and shape of the berry; weight, color, brightness; and, in general, those characteristics which indicate to him the amount and quality of the flour the wheat will produce. The baker is concerned with the color of the flour, its texture, and any other qualities which indicate to him the amount and quality of the bread it will make.

The quality of wheat is dependent upon, and is variously affected by, climate, soil, variety of wheat, quality of seed, cultural methods, time of maturity, time of harvesting, and methods of curing and storing; and any one of these factors may cause deterioration or a falling off in quality.

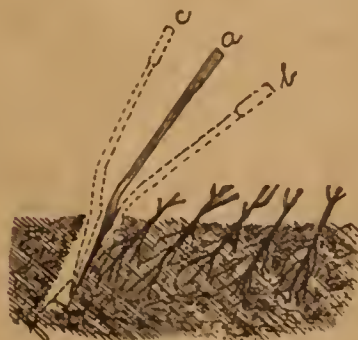
The methods of improvement are simple enough, or, at least, considerable improvement may be made by very simple methods. From what has been said, it is quite evident that such improvement lies in the hands of the farmer, but the miller may do much to encourage him. There must be more careful attention given to the selection of varieties of good quality and early maturity. Early maturation generally means more thorough ripening, by lessening the ill effects of rust, hot weather, etc. The seed for sowing must be more carefully selected and graded, so as to use only plump, heavy, mature, and dark and clear colored berries. The farmer must also give more attention to the condition of his soil. A fertile, well-balanced soil, of a fine but firm and even texture, and containing plenty of humus, is essential to the production of wheat of good quality, as well as large yields. Better methods of treating the crop, from soil preparation and seeding to thrashing and storing, must be encouraged. That the better methods are profitable is abundantly proven by the experience of the most successful wheat growers.

I believe the millers and grain dealers might easily and profitably do very much more than they are doing to bring about improvement. They are well situated to find out the better varieties, and might often assist farmers to secure better seed. A great deal to encourage improvement might also be done by paying better prices or by discriminating more in favor of the better grades of wheat.—Prof. A. T. Wiancko in Indiana Farmer.

A HEDGE OF ELMS

In a manner partly accidental I found that elm sprouts close together make a good hedge, and I have since started several of them in suitable locations. They should not be set where the ground is to be cultivated, as disturbing the roots will cause them to send up sprouts.

They are good along a street line or along an old stone wall where something higher than the wall is wanted. The trees should be about three feet apart, should be headed very low, and cut back every year or so like other hedges. My oldest hedge has been growing about twenty years beside a



wall, but is not over six feet high, and is easily kept down. There are few gaps, no dead wood, and nobody ever gets over or through it to steal fruit. It is a solid mass of tough, springy growth that nothing can penetrate. By setting the trees still closer together a hedge can be made sooner, but at three feet

they close up in a surprisingly short time if branched near the ground.

The drawing shows how any hedge plants or trees are set when doing rapid work. The spade is driven down, the handle pushed back to B, the point of spade worked about and forward to F, then the handle raised forward to C. This way makes a sort of pocket for the hedge plant, which is inserted, and the soil pressed around it with the foot. A hedge can be set in five minutes, and every plant if it branches will live and thrive.—I. A. L. in The American Cultivator.

EXERCISE FOR FOWLS

To keep fowls in a natural and profitable condition self-imposed exercise is required, and this is only obtained by giving them more or less range where there is grass, trees or shrubbery to engage their attention and favor their instincts. One advantage with fowls on the farm is that they can be given a free range, and in doing this are able to pick up a good part of their own living and convert into a valuable product much that would otherwise go to waste.—The Home Monthly.

CONCRETE ON THE FARM

This is a cement age. The farmer will find concrete one of the most useful things in his construction work. The four makes of Portland cement in Illinois are giving general satisfaction. Ideal concrete is made of cement, sand and crushed rock. The sand should be coarse, clean and sharp. River-bottom sand, when fine and round, should not be used where much strength is required.

As a test of sand, rub it in the hand, and if there is much dirt left on the hand discard that sand. If, when a large handful of the same is thrown in a pail of water, it leaves the water muddy, discard it. A dirty sand makes a weak concrete. Crushed rock is much better than screened gravel because of the rougher edges.

The following are the four recognized mixtures for concrete:

1. Rich Mixture—One part of Portland cement, two parts of clean, coarse sand, four parts of crushed rock. This is used for floors, fence posts, etc.
2. Medium Mixture—One, two and one half and five parts respectively of cement sand and crushed rock. This mixture is used for walks, thin walls, etc.
3. Ordinary Mixture—One, three and six for heavy walls, piers, abutments, etc.
4. Lean Mixture—One, four and eight for footings and in places where volume and not great strength is needed.

When gravel is used the proportions are one part of cement and from six to nine parts of gravel, according to the amount of sand in the gravel.

To make one cubic yard of concrete, the following respective amounts of cement are required: Rich mixture, one and one half barrels; medium mixture, one and one fourth barrels; ordinary mixture, one and one eighth barrels; lean mixture, seven eighths of a barrel.

In construction work, such as floors, barns, fence posts, bridges, etc., re-enforcements of iron are essential. The beginner will need the supervision of an expert in using re-enforcements.

Measure exact amounts of each part. Mix thoroughly, and not too long before applying the water. Cement will set in twenty to thirty minutes, and if disturbed after that loses its strength.

Spread the sand and cement on a mixing board, and mix thoroughly, adding enough water when mixed to bring the mixture to the consistency of mortar. Add the proper quantity of crushed rock, and mix all together, after which it is ready for use. In this manner the sand grains are all covered with the finer particles of cement and the crushed rock when added has all the voids filled with the temperate mixture. This undoubtedly gives the greatest strength for the material used.

A very common method, however, is to mix all three parts at one time while yet dry, and then to mix with water until the mixture will pack well and handle with a shovel.

Get the form walls rigid, and do not use lumber that is too dry, as it takes up moisture and changes its shape so as to injure the concrete in setting.

Do not allow concrete work to dry out fast, as cracks will appear. It should be protected from the sun for three to five days, and sprinkled with water, to insure even setting throughout the concrete.—The Farmers' Review.

In England the parcels-post system carries pound packages for six cents and eleven pounds for twenty-four cents.

BY T. GREINER

MRS. 'E. W., of Marengo, Illinois, bought a farm last winter which has a ten-by-twenty-foot greenhouse on it. All heating apparatus is spoiled, so that the "greenhouse" is practically a cold frame. The question is whether the building could be used for growing asparagus. She thinks she might be able to secure stalks two or three weeks earlier by having the plants under glass. She also asks what she should do with the plants during the summer, when it gets to be so hot in the greenhouse.

Of course it is entirely feasible to grow asparagus in a cold greenhouse. Whether this would be the most profitable crop is still a matter of doubt in my mind. A trial will tell. Strong, two-year-old roots are required, and these ought to be taken up in the fall, the clumps allowed to freeze, and then planted close together in the greenhouse. I believe that new plants will have to be used every year. Possibly plants might be set in the greenhouse just as one would set them in an ordinary bed, and grown exactly as one would grow them outdoors, but the house would have to be well opened during the summer, and the glass heavily white-washed, so as to keep the house cool inside.

A building of this kind, however, could be made very serviceable for growing early vegetables and flower plants, and this is the use I would put it to.

Our friends often seem to forget that they have in their own state, and sometimes not very far from them, a station that is only too glad to help them out with information in many of the difficulties that beset them. For instance, I receive quite frequently parts of diseased plants, or of plants infested with insects, from Southern or Western states, and in some of these cases the plants are dried up or the insects mashed so as to give me very little chance to identify the disease or insect. A safer and quicker way for our friends to get the information they are after would be to send a plant or two, and some insect specimens, etc., to the nearest experiment station. Even if large plants, etc., have to be sent by express, the expense would not be great, while the chances for quick delivery and speedy determination of the cause of the trouble are much enhanced.

It is in line with the stations' work to help farmers of their state out of all such difficulties, and so far as I know, the station officers are always ready with their services in such matters. My advice to farmers is to depend more freely on the stations and on the Department at Washington than they have been in the habit of doing.

A Washington reader asks how best to protect his lettuce and cabbages from green fly and cabbage worm. We often have much trouble from the green fly on our hothouse lettuce, on egg plants and sometimes on tomato and pepper plants in the greenhouse. Tobacco and tobacco preparations, as they are now kept on sale in every seed store, give certain relief from this pest. But if plants, such as cabbage and cauliflower, more seldom lettuce, are infested in open ground by plant lice, then the matter is more complicated. The latter find so many safe retreats in the folds of the close-growing lettuce, cabbage, cauliflower, etc., that we cannot always readily reach them. The application of tobacco dust, either by means of a bellows or by simply scattering a small handful into the cabbage or cauliflower head, or dashing hot water or soapsuds over the heads, or forcibly spraying them with kerosene emulsion, tobacco tea or whale-oil soap solution, will usually rid the plants not only of lice, but of the green worm as well.

Many farmers and gardeners prefer powder bellows and guns to spray machines. For many purposes powder applications are useful; as, for instance, insect powder for the cabbage worm, or hellebore for the currant worm, or even dry Paris green for potato beetles and slugs. For use in a small garden the small hand powder distributors may do. I have often carried a device of this kind in my pocket during cabbage-worm time, and applied buhach (California insect powder) here and there as I found cabbages infested with the worm. But for

business, as where one has to go over larger patches and acres of potatoes or other vegetables, I would prefer a large powder gun.

I do not use it, however, for I calculate to kill two birds with one stone—that is, two enemies—namely, insects and diseases, at one and the same time—with one mixture, and the surest way to do that is by the frequent and thorough use of Bordeaux mixture seasoned with an arsenical poison in a forcible spray. The easiest way to apply it for moderate patches, say not exceeding an acre or two, is by means of a good modern knapsack sprayer.

If I had plenty of clean straw or marsh hay I believe I would never neglect or hesitate to use it freely as a mulch in the garden. It makes a good carpet to walk on, keeps the soil cool and moist, and generally helps plant growth. A heavy coat of such materials put on the soil between the rows of potatoes saves all the trouble of subsequent cultivation, and the crop usually is large, or at least larger than otherwise, and comes out clean. Hay and straw are rather valuable in this vicinity, and I have not often been able to find them available for mulching except in the case of strawberries, which are mostly mulched with marsh hay. But I have often used old corn stalks, weeds and other rubbish for mulching potatoes, celery, cabbages, cauliflower, etc., and invariably with very satisfactory results.

A Missouri reader reports that his potatoes suffered much injury last year from the old-fashioned striped potato beetles. In my own vicinity I do not remember having seen even a single solitary specimen of "blister beetle" in years. They feed in their larval state largely on the eggs of grasshoppers, and often are especially numerous and destructive in a season following a grasshopper invasion. This does not mean, however, that they will be equally numerous the next year or any other year. They seem to come and go, or be gone, and the chances are that there will not be enough of them this year in the same locality to be very destructive. The old way to deal with them was to drive them with the wind from row to row into a windrow of old straw, and then set fire to the straw. I would try to kill them with poisons, especially our reliable arsenate of lead added to the Bordeaux mixture.

Can I start an asparagus bed right from seed? This question came from a South-eastern reader. It can be done. I have done it once or twice, but I would hesitate to advise any one to attempt it. If you are bound to try it, however, by all means plant the seed deep, say in the bottom of a little trench, even if four or more inches below the ground surface, covering only lightly at first. Be sure, also, to thin the plants, leaving only one in a place and a foot or two distant from the next plant on each side. The rows should be four or five feet apart.

If you can succeed in getting plants well started in this way, you will most likely get a good and useful bed, one that will serve you for many years. But it is usually much simpler, much quicker, much safer, to set out good strong yearling roots, which you may either grow from seed in a nursery row in the garden or buy from a plantsman at a moderate price. Thoroughly prepare a piece of rich, warm, well-drained soil, manuring heavily and plowing deeply, then set the plants in deep furrows at the distance already mentioned for seedling plants. The latter plan is usually the more satisfactory.

A Georgia reader is anxious to compete for a prize for the largest and smoothest Irish potato, and he has an idea that by topping his vines, which have already made a "rank growth," he will direct the energies of the plant upon the development of tuber rather than upon growth of top.

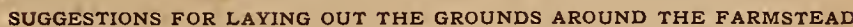
Under normal conditions a thrifty and healthy growth of top also denotes healthy and strong development of tubers. Cutting off part of the tops can have only one result—namely, to reduce the size of the tubers. If I were desirous to grow tubers of extra large size I would first of all select a variety of extra large size, plant fair-sized whole potatoes in a good state of preservation, (not weakened by premature sprouting), and pull out all the weaker stalks, should there be more than two or three. Good cultivation, which includes protection from beetles and diseases, will then pretty nearly insure the production of mammoth tubers.

BY SAMUEL B. GREEN

In a short talk to one of my classes along this line I generally cover some of the principles of landscape gardening in about the following way:

The most important thing in laying out grounds is to have a plan that shall be sufficiently comprehensive to include the whole scheme of the location of buildings and drives and the plantings of trees and shrubs. Considerable care should be taken with this plan. It should be understood, too, that an inferior plan is far better than no plan at all, and that it is very easy and inexpensive to make changes on paper, but often very expensive to make them with the actual material.

The grounds about our homes are more or less an index to our character and to our knowledge of the best use of the materials that we can command. We may look upon these grounds as a sort of a setting for the home picture. It is desirable to get the whole family interested



in such work, for there is nothing that holds the children to the home and excites their interest in country life as the trees and plants that they have helped to set out and care for.

The first thing to be considered in selecting a location for a home, is healthfulness, and the next is convenience, after which we may well take up the subject of appearance. In planning our grounds we should consider their relation not only to our holdings, but to everything that can be seen from our location. Especial effort should be made to get good views from the windows of the rooms used the most. We should aim to cut off the view of such things as are unpleasant and to bring in vistas containing such things as go to improve life and around which cluster pleasant associations. I generally illustrate this thought by making a drawing similar to that shown in the illustration, which represents a southeast quarter section. On this the home is located back several hundred feet from the roadway, and the buildings are to the northeast of it. The whole is surrounded with a windbreak on the north and west sides, and with a slight shelter on the south and east. In such a location the views of the church, the neighbor's house, the school house, the watering trough, the hills and the town are kept in full view from the windows of the dwelling, and as well as may be from the porch. Also the view of the entrance of the drive into the grounds should be kept in full view. All of these points may be kept in sight and still we may have a very good windbreak maintained.

It is a mistake to lay out the plantings around a country dwelling in such shape that they cut off a view of such features as go to make rural life attractive and pleasant, and it is also a mistake to make them too small.

The value of improvements of this character are seldom appreciated, but if the matter is carefully considered it will be found that there is nothing that we can do to our farm lands that will give us larger returns for the investment than the time and money we put into properly arranged windbreaks about our buildings. Looked at from the utilitarian standpoint, we get wonderfully good returns from suitable windbreaks about our buildings, paddocks, barn yards and gardens, and they should be large enough to include all

these. In figuring this up, let us suppose that there are on the farmstead fifteen cows. I think that it is hardly too much to say that the advantage it is to them in having a well-protected yard in which they can take an airing in winter without too much exposure is worth at least one dollar and a half an animal per winter. Then, too, there is a saving in fuel used in the house, and greater comfort generally without as well as within the buildings, not only for the farm animals, but for the owner and his family in carrying on the ordinary duties of life. Beyond this comes the value of the esthetic, which is something that cannot be computed and may be priceless. Another important feature of value is the greater pride which the owner takes in a place that is properly developed. This is one of the pleasantest features of rural life.

In considering the laying out of the grounds about a city lot I use a plan in which the front door of the house is put upon the north or west side, which is the proper place for it unless it is to go in the middle of the house, since the south and east sides are most desirable for living rooms. The path to the front door should generally be straight. If at all curved, it should curve in the direction from which the most travel comes. Do not put in a curve without making some

plantings on the bend around which the path is supposed to turn. Do not set the shrubs out all over the lawn, but rather keep them in groups arranged along the sides of the lawn or near the dwelling, or in places where screens are needed. The back of the yard should generally be kept open for a garden, clothes yard, etc. Put as little land as may be into walks and drives, as these have a tendency to break up the lawn and make it appear small. They are also expensive to put in and to maintain. Keep the center of the lawn open and unbroken by plantings.

A few years ago it was the fashion to make the driving portion of streets in resident districts much wider than is necessary. As a rule a driveway two rods wide is abundant for any street in a resident district that is not used as one of the main arteries of traffic. It is better to have a large portion of the street in grass in the form of well-kept boulevards than to have it in gravelly roadways which are not used and are expensive to maintain. Oftentimes the gutters of roads are best maintained in grass.

The architecture of a house should be in keeping with its surroundings. A large and pretentious house in a quiet and secluded place is not in good taste. The estimates of the cost of a building will generally be exceeded from twenty-five to fifty per cent. This is especially true with those who are inexperienced in such work, and as a consequence, when they come to grading and planting the grounds about the house, they are apt to be parsimonious and not spend the money they should for this purpose. No future expenditure can atone for short-sighted saving in lawn making at this time. If the material available on the ground for a good lawn is not satisfactory, it would be better to incur considerable expense at this time to make it right rather than have the lawn made of poor materials on which grass will fail to grow successfully.

The slopes to the house should be easy and gradual. Terraces should be avoided as much as possible. Ofttimes a nice dwelling does not show off to advantage because of poor grading. For instance, where the top of the terrace is about the height of the eye and the lawn to the house nearly level, the apparent distance from the house to the street is reduced.

Poultry Raising

BY P. H. JACOBS

HIGH AVERAGES

IT CANNOT be denied that the average number of eggs that should be expected from a flock of hens has increased, and every season experiments demonstrate that twelve dozen eggs per hen per year will be expected from a well-kept flock. Many of those who succeed in securing a high average for a flock owe their success to discarding the hens that failed to keep up with the others, and by breeding only from the best. This is an important part of poultry keeping, as the next year's operations will depend largely upon the young pullets that were hatched to add to the flock. If every egg used for hatching could be known to have been laid by a hen that has proved herself an extra good layer, it would have a wonderful effect upon the usefulness of poultry in the future.

Every inferior hen that is allowed to contribute eggs to those intended for hatching purposes is a hindrance to the improvement of the flock, and this injury cannot be prevented by adopting another breed, as the essential to safety is to allow no drones. There can be scrubs even among pure breeds, if the characteristics of the breeds are not graded by selection. Every pullet should have as its dam one of the best in the flock. If the farmers will make it their duty to look into the matter of increasing the average by careful selection, there will be a large addition to the value of the flock in a few years.

COTTON-SEED AND LINSEED MEALS

Cotton-seed meal is exceedingly rich in protein, and also contains a large proportion of oil. Poultrymen favor linseed meal as more suitable for fowls, it being prepared from seed that is mature; but it may be mentioned that where cotton-seed meal has been used it has given satisfactory results. Oil cake (linseed) can be broken into small pieces and given to fowls, or the prepared ground meal may be used with grain.

If the hens or pullets are not laying, use linseed meal or oil cake three times a week, and an improvement in the condition of the fowls will quickly occur. The combs and wattles will become a beautiful scarlet, the eyes brighter, the motion quicker, and the plumage will indicate improvement. The foods will regulate the bowels and prevent both constipation and looseness. In addition to their alternative properties, they are an excellent and nourishing food, but should not be fed to very young chicks, as the effects may be too radical.

An excellent combination is to use bran, linseed meal and clover together, sprinkling the bran and linseed meal on the clover. It is somewhat similar to feeding a cow, but the fact is that if hens were fed like cows there would be more eggs.

The cost of linseed meal is but little compared with its real value, and poultrymen can make it a portion of the regular ration with advantage, as it is not only nutritious, but is also relished by poultry.

A teaspoonful once a day, for each hen, is sufficient at first, but may be gradually increased to double the quantity.

POULTRY-HOUSE MANAGEMENT

There are as many designs of poultry houses as of other buildings, every farmer or poultryman having a preference for some particular arrangement which appears to him best to reduce the cost of management.

Some poultrymen attempt to economize by keeping as many hens as can be crowded into a building, perhaps three or four times as many as the house should accommodate. Crowding induces disease. The lowest estimate of space to allow depends upon circumstances, but each hen in a house should have at least five square feet of floor space and one foot of space on the roosts. Smaller chicks do not require as much, but should be allowed sufficient room, as it is their nature to crowd. If very small birds are allowed to crowd they will smother themselves to death, or be injured in other ways.

The roosts in a poultry house should all be on a level, for birds will fly to the highest point, and they will crowd on the top roosts, hence the result will be as bad as if there were only one roost. They should not be over three feet high from the floor, for jumping from high roosts injures the legs of the birds. The roosts should be one foot apart, and arranged so that they can be lifted out and cleaned without much trouble.

A poultry house should be about six

feet high in the rear and nine feet in the front. It should have a southern exposure, so that the sun's rays may enter all the year round. Different houses should be provided for the different stages of life for the fowls, as several sizes should never be kept in the same house. If young birds are kept with older ones the little ones are in danger of being trampled.

A yard one hundred by one hundred feet is about a quarter of an acre, and is not too large for twenty-five hens, while a poultry house for the same number should be about ten by twelve feet. This proportion is at the rate of about one hundred fowls to an acre, which is sufficient. There are those who are keeping several hundred fowls on an acre, but it must be stated that not as many eggs are secured as would be the case if the hens had more room.

THE MALE

Do not be surprised at a price of two or three dollars for a pure-bred male. The value added to a flock of hens by the introduction of a pure-bred male is nearly a hundred per cent. The mongrel is thus crowded out, and the flock becomes more uniform. The new blood gives vigor, and a larger proportion of the chicks will be reared to render service next year, and they will produce more eggs and meat proportionately than the present flock. There is nothing in which a farmer can more profitably invest a few dollars than in pure-bred males.

THE BEST FLOORS

The poultry-house floor is an important matter to consider, as on some farms it is the harboring place of rats. In this age of cement the poultry-house floor can be made satisfactory at a low cost. A board floor is the best of all, but it cannot be made rat proof. The floors should be of concrete, with boards laid flat upon it. Or the house may have a layer of half-inch-mesh wire, which must be strong, with earth thrown over the wire, and the sides of the house should be enclosed with wire as well.

The concrete floor is excellent, but it will not be as comfortable for the hens during the winter as the board floor, as it remains cold; but this difficulty can be avoided by keeping the floor well covered with dry dirt, leaves or cut straw.

Rats have been known to work through concrete where the work was imperfectly done, but they cannot avail against one-inch-mesh wire in the concrete.

SEX OF PIGEONS

The most expert breeders of pigeons sometimes find it difficult to distinguish the males and females, and it is claimed that there is no sure method known. The hen should be as near like the cock as possible. In most cases the cocks are more massive about the head and beak, being thicker and stouter built in every respect. But this is not always the case, and a fully developed, vigorous, stylish hen can be passed off for a cock. Again, the cock makes a louder noise than the hen, and his breast bone is larger. When two young birds are hatched the cock is generally the larger and feathers out faster.

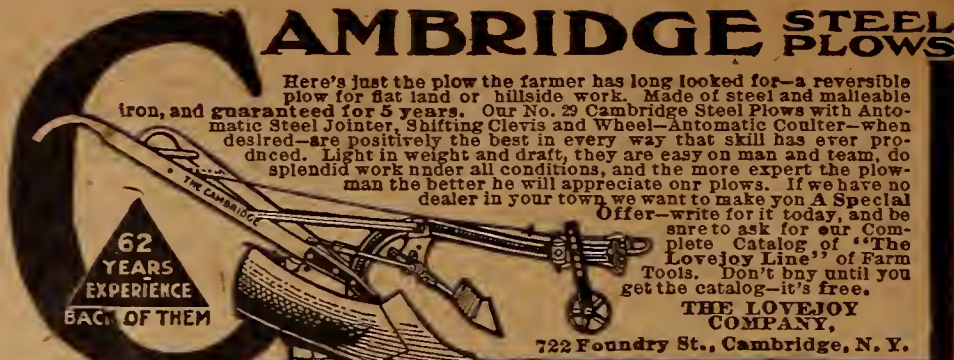
ONE OF THE PRIME MISTAKES

Disease never appears spontaneously in a flock, as it must come from some source. Farmers and poultrymen are very careless in the matter of preventing disease. The farmer should never bring a hen into a flock from another yard, nor allow his flock to associate with those of the neighbor, as not only lice, but disease, may be carried from one place to another in this way.

Allow no pigeons to come into the yard, for they will surely carry lice and disease from one yard to another even more quickly than hens. They generally bring it on their feet or on the feathers of their legs.

Lastly, by cleaning the houses and yards twice a month, and providing coal ashes for dusting, one will save the labor of having to fight a billion of lice at one time, and the hens will not suffer torture before the work is performed.

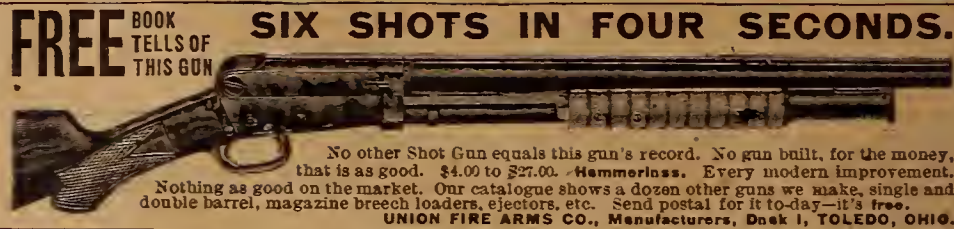
The introduction of one hen on a large Hudson River farm once caused disaster where profit had been the result year after year. Roup being introduced, the whole establishment, containing several hundred hens, had to be abandoned, as it was in-



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possible to completely cure the fowls of such a contagious disease.

Keep the yards clear of disease and half the battle of success will be won. Quarantine every bird that comes on the place, and buy only from breeders who are known to have healthy and hardy birds.

COLOR OF THE YOLK

It is considered desirable to have the yolks of a dark color, but the preference is one that has grown from the fact that at some time in the past the bakers considered them of value in giving color to cakes and pastry. Color depends altogether upon the food and does not indicate quality. If the hens are fed with yellow corn or clover hay the yolks will be deeper in color than when wheat and bran are fed. In summer, when the hens can secure a greater variety, the color of the yolk is deeper than when the food is restricted to one or two kinds. Beets, animal meal, dried blood, lean meat or millet seed will influence the color of the yolk.

THE MINORCA FOWLS

The Minorcas are considered one of the best of the breeds as layers. There are two colors—black and white—dividing them into Black Minorcas and White Minorcas. The Blacks are of a glossy, green-black color, as lustrous as possible, being similar to the Black Spanish in shape and size, but possessing a red face. The Whites differ from the blacks only in color.

They are regarded as superior layers, and are a valuable acquisition to the list of breeds. They lay very large eggs, are non-sitters, and are very hardy, considering the fact that they have large single combs. There are also rose-comb varieties, which possess no advantage over the single-comb varieties.

BREEDS AND COMBS

Each breed has a form of comb peculiar to itself, which is a badge of its purity. Some individuals have extremely large combs, which is not a desirable feature in very cold climates; but the admirers of such breeds affirm that with careful protection during the periods when the north winds are severe the birds with large single-combs thrive as well as the members of other breeds.

The comb is an important member of the body. Should the comb be subjected to cold drafts and be frozen, the injured fowl will cease laying until the comb heals; hence, too much comb and wattles are not desirable.

Of the different shapes of combs, the "pea," which is small, with two smaller ones on each side, resembles a partly open pea pod, and is such as is possessed by the Brahmas and a few other pea-comb varieties. The rose comb is a flat, broad comb, with small spikes on top, and a long spike at the rear, as may be noticed on the Hamburgs and Wyandottes. There are also the single straight comb, peculiar to the Cochins, Leghorns and Plymouth Rocks, and the V-shaped comb of the French breeds.

The closer the rose combs and the pea combs lie to the heads of the fowls the better, as less surface is then exposed to the cold winds during the winter season.

POULTRY POINTERS

Put wood shavings in the bottom of the nests, and the sitting hens will not be bothered with lice.

Damp floors and sloppy foods encourage the roup, and roup thins out the flock of hens. Dip the heads of roupish hens into a small can of coal oil, and they will be helped immediately; then give dry food and put a floor in the poultry house.

W. D. N.



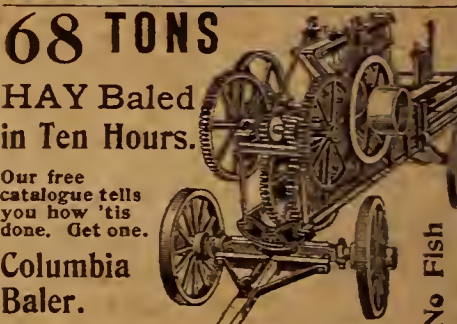
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No article is more useful about the stable than Mica Axle Grease. Put a little on the spindles before you "hook up"—it will help the horse, and bring the load home quicker.

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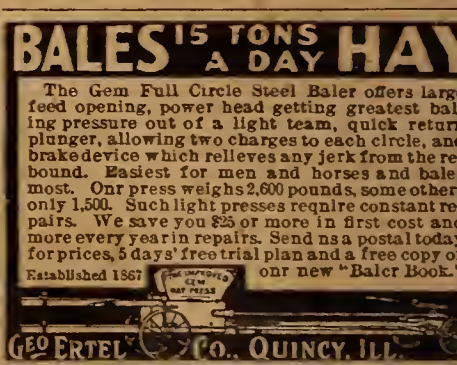
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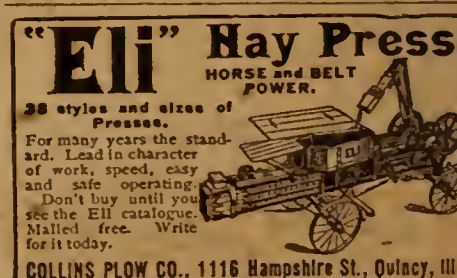
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MISTAKES IN BREEDING SWINE

IN SWINE breeding there are two very common mistakes made by the inexperienced breeder regarding females, especially.

The first mistake is in breeding the sows too young. Swine grow and develop rapidly. Of course they make growth and development only from the feed they consume and assimilate.

I have known hog feeders, and as for that, feeders of all kinds of animals, who seemed to assume that animals have some faculty comparable to that of our inestimable leguminous plants which we are told gather much of their sustenance from the atmosphere, and consequently do not need very much feed attention until near the time of their market destiny.

Now, while air and sunshine are quite necessary for the life and healthfulness of all animals in their making use of feeds eaten, the condition remains that thrift and growth and profit depend upon the feed and its character. All successful breeding operations presuppose the inherited, prepotent excellencies of the individuals to be used, hence the young sow that is intended for a herd matron should be chosen from a litter sired by a good, well-defined and matured type of the male side of the breed selected, so that she may start in on her labor of well doing with the advantage of being well bred. The dam of the young sow should be a prolific, quiet, industrious, motherly individual, typical of her breed.

After this early selection of the future sow, then feed and care must take up the work of bringing her into estate. She should be kept growing and healthful with her mission of useful motherhood in view always. Making a hog fat is not making it grow, and the young sow needs no more of the former than goes with a proper degree of the latter.

When shall she be bred? At last I have reached the specific first mistake I started to discuss—breeding the sow before she has attained sufficient growth or age.

Of course, she only grows from her feed consumption, and while in the first few months of her life she needs about all the feed it is possible for her to consume and assimilate to make her proper growth, it is obviously an error to impose upon her thus early the strain of nourishing her unborn offspring. In fact, it is quite impossible for her to do the two things—continue her own growth, and properly nourish her offspring—from the simple amount of feed she is able to eat; hence, when the young sow is bred too early it means that her own development is unfavorably arrested, and the little pigs come into the world stunted weaklings. It seems to be my observation that producing large families is largely a matter of habit in swine mothers; that sows bred too young seldom have large litters, and generally fail to acquire the habit of material numerical increase in subsequent litters.

The assumption is that when the breeder takes it upon himself to raise a good sow, and having gotten her, he will want to keep her. This being the case, he can well afford to make haste slowly and be further on in the end. He will, therefore, not breed his sow until she has good growth and reasonable age. Exceptionally well-developed individuals may be bred at nine to ten months of age, but usually at a year old is quite early enough to breed the ordinary class of really good sows.

As mistake number one is in too early breeding, mistake number two is in the too early passing of the good sow. Many good sows are sent to the butcher after their second litter. My advice certainly is to retain the good sow as long as she retains her goodness. A litter of ten pigs from a strong, mature sow is worth five times as much as a litter of five from a sow in her ten-months' form.

After a sow has been given every chance by breeding and feeding to demonstrate her worth, if she be found wanting her journey should end soon. If, on the other hand, her good work entitles her to a long life, she should by all means have it.

W. F. McSPARRAN.

FEEDING THE DAIRY HERD

I wish to emphasize the fact that with few exceptions dairymen will make the business more profitable when they make home-grown foods their chief ration. In a few exceptional cases purchased foods will prove more economical than those grown on the farm. In New York State corn, oats and bran will probably long continue to be the chief grain foods. Linseed-oil meal and cotton-seed meal have an especial value as supplementary foods, but there are few cases where it will prove economical to feed them largely. They are valuable foods, but should be fed in small quantities as long as the prices hold the same

Live Stock and Dairy

relative value with other grains that they have at the present time. The gluten feeds or meals, the by-products from the glucose and starch manufactures, have a high feeding value and are becoming increasingly popular.

Of the rough feed I believe alfalfa and clover are by far the best when they are secured in good condition, both on account of their intrinsic value for feeding and also because of their great importance in building up the land and of their great importance in the rotation of crops that is carried on to supply the food for the dairy. Of the two, clover is best adapted to the rotation when a short system of rotation is practised, but alfalfa is a very desirable crop and leaves the soil in the best possible condition for future crops, and the expense of seeding is greatly reduced if it is seeded on land that was formerly an alfalfa field. In my own observation and experience I have not seen a single failure to secure a good stand of alfalfa on land that was formerly producing the plant.

The silo has made plain to us the great feeding value of the stalks and blades of the Indian corn, and it is very interesting to note how fast the feeding of ensilage has increased in popularity among the farmers who find dairying a profitable appendage to their farms. There is no question but that ensilage will long remain the chief reliance to the dairy farmers in this section of the country.

I have also found oat straw a valuable fodder when fed with a ration where ensilage was the predominating factor, and on all farms where oats can be grown at a profit the straw can be made to supply an important part of the rough feed for the cattle.

Whatever the choice or combination of foods, the feeding should be liberal. We may not understand just how much of each kind of feed a cow requires to do her best, or just how the milk is produced, but we do know that she must

is preparing a bulletin on the subject which will give the farmers of the country all of the facts in regard to several experiments which have been made along this line.

Dr. E. M. Santee, the dairy expert of the department, states that he has been using muslin curtains in his own stables for several years. He has found that while the temperature is actually lowered one or two degrees, the building feels at least ten degrees warmer. This fact, he attributes to the lack of humidity in the air.

The method of using the muslin curtains may be made very simple. It is necessary only to tack the muslin to a light frame, which is used to replace the sash in the window. It is well, of course, to have some glass windows, for while the muslin curtains do not keep out the light, they do not permit the direct rays of the sun to enter, as glass does.

I have used muslin curtains in my poultry houses for some time, but I open them on every fair day, even in the dead of winter, and I never have found a frozen comb even on my Brown Leghorns. Indeed, the use of muslin curtains in poultry houses has come to be so common that there is little need to discuss that practise.

In the case of stables it is well known that the cold, damp chill which one finds when the building is tightly closed is due to the moisture in the air. This moisture collects in great quantities where animals are confined in an unventilated place, and causes sickness much more quickly than dry cold. When it was the practise to keep poultry houses closed as tightly as possible at night it was not uncommon in the morning to see the interior walls covered with frost or drops of water. Such conditions were, of course, productive of disease.

The value of fresh air has come to be recognized by all physicians in dealing with patients who have pulmonary



STABLE WITH MUSLIN CURTAIN

eat nutritious food and that it needs to be palatable and rightly proportioned if she does her most profitable work in the dairy.

W. M. KELLY.

VENTILATING STABLES WITH MUSLIN CURTAINS

A number of farmers in the East who have been experimenting with muslin curtains are confident that they have solved the question of stable ventilation. Many systems, more or less expensive, for the proper ventilation of barns, especially dairy barns, have been evolved and experimented with. Most of them have had some disadvantages. This new plan is the direct outgrowth of the use of muslin curtains for the ventilation of poultry houses. What would work so well in one case, it was reasonable to suppose, would prove satisfactory in the other. In New York State some twenty farmers at least have been experimenting with muslin curtains the past winter, and apparently are convinced of the merits of the plan.

The agricultural department of the United States government has been looking into the matter, and it is understood

troubles, and it is by no means impossible that the adoption of this system will do much to eradicate tuberculosis from dairy herds. Damp stables foster the disease, and it is fair to believe that cattle will be in less danger in barns which are filled with fresh, dry air.

It may be difficult at first to believe that the use of muslin curtains will not make the stables unbearably cold. Doctor Santee's testimony shows that, as a matter of fact, there is very little actual difference, and that the ventilated stable is much more comfortable than the other, even though the temperature be a degree or two lower. Standing a short distance from the curtain, it is impossible to feel a current of air, showing that it does not enter rapidly. And as far as glass is concerned, it is a well-known fact that that material radiates cold very freely. The muslin-curtain plan is worth a trial anyway.

E. I. FARRINGTON.

You are no doubt very busy just now, but we trust that you will take time to read the advertisements in FARM AND FIRESIDE this issue.

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The book will tell you all about REX Flintkote Roofing and give photographs of buildings on which it is used, with letters of recommendation from users. These samples will show you what REX Flintkote Roofing really is and enable you to test its properties.

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THE WARD FENCE CO.
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If you need anything in saw mills or wood working machinery, send for our catalog. Our line is complete. Goods highest quality and prices reasonable. American Saw Mill Mach. Co., 130 Hope St., Hackettstown, N. J. New York Office, 602 Engineering Building.

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Write for free book explaining cost and how to organize, build and operate telephone systems among your neighbors. CADIZ ELECTRIC CO. 18 C. C. BLDG., CADIZ, O.

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The date on the address label shows the time to which each subscriber has paid.

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Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a renewal. If all our subscribers will do this a great deal of trouble will be avoided.



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Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

Letters regarding advertising should be sent to the New York address.

THE TWO-CENT FARE

THE decision of two railroad passenger traffic associations to make no fight in the courts against the two-cent-fare laws of several states is an indication that some of the railway managers have come to a better understanding of the public and of themselves.

The two-cent-fare basis will gradually but surely broaden until it covers a large part of the country. The following states have already passed two-cent-rate laws: Arkansas, Illinois, Indiana, Iowa, Ohio, Michigan, Minnesota, Missouri, Nebraska, North Dakota and Pennsylvania.

With the abolition of a multitude of free passes—an unfair special privilege—and the certain increase in the number of pay passengers, the net earnings of the railroads will increase rather than diminish, and deadheads will be the only kickers.

Every step in railroad reform is welcome to the farmers. They have been bearing most of the burden of railroad discrimination.

The abolition of special privilege in passenger rates is the forerunner of equitable freight rates, and when they are secured the farmers will come into their own in the business world.

A TAX-DODGING CASE

Readers will recall that we published something several months ago about the remarkable tax-dodging achievements of the Union Central Life Insurance Company. About a year ago Judge Hoffheimer rendered a decision, in a famous suit, that this company owed the treasury of Hamilton County, Ohio, nearly \$183,000 for omitted taxes and penalties due for the five years from 1897 to 1901 inclusive. The decision, moreover, covered all essential points in two other suits pending against the company for the recovery of omitted taxes for the years 1902 to 1905 inclusive amounting to more than \$3,000,000.

The case was appealed by the company to the general term of the Superior Court. A few weeks ago Judges Ferris, Hosea and Swing handed down a unanimous opinion sustaining Judge Hoffheimer in all points.

The Court scores the crooked work of the officials of the company in drawing "phony" checks before tax-listing day for the purpose of cheating the county out of taxes due on money in banks as follows:

"It would scarcely seem to require more than a statement to indicate the correctness of the position taken by the auditor in the matter of listing moneys on hand for taxation. It is a travesty upon the plain provisions of the statute to suppose that by the mere drawing of checks, under the circumstances of this case, that caused an apparent reduction in the amount on hand on tax-listing day, as appears by the stub of the bank book, would in fact reduce the amount that was subject to taxation."

The case will be taken to the Supreme Court of Ohio for final determination. The attorneys for Hamilton County, however, are confident that the ruling of the highest court will also sustain Judge Hoffheimer's clear, strong decision in this case, and practically settle the two other pending cases against the Union Central.

A YEAR OF DELAYED HARVESTS

The first half of 1907 will be notable in agricultural annals for its unseasonable weather, the uncertainty of its crop outlook, its delayed harvests.

A writer in the July "Review of Reviews," who speaks with authority, discusses the whole situation of backward crops the world over.

At the beginning of the growing season unfavorable conditions were manifest, not alone in America, but to some degree in all the Old World grain-raising area. In central Russia and the Danubian provinces the wheat plant had been damaged; Germany reported wheat suffering from winter killing; southern Russia and the

Balkan States had late seeding and lessened acreage because of excessive rains; interior France gave discouraging bulletins; parts of Bulgaria told of the severest winter effects in forty years, while bad weather lessened India's promise. Argentina alone seemed satisfied with crop-sowing operations.

European crop news became more favorable in mid-June, when needed rains broke droughts in Russia and some other parts of Europe, but the wheat situation continued below normal.

In America two compelling factors have greatly influenced the yield: The northward movement of the "green bug," or grain louse, and the southward-reaching line of killing frost at an unprecedentedly late date.

THE "GREEN-BUG" RAVAGES

As early as March, a month marked by exceptionally high temperature throughout the Middle West grain belt, the "green bug's" ravages were reported from northern Texas, with the pest, fostered by the early opened spring, rapidly working into Oklahoma. By April it had reached Kansas and was damaging the southern counties of that state. A campaign of extermination was begun by the entomological department of Kansas University, assisted by millers, grain dealers and commercial clubs. Over 12,000 boxes of parasite enemies of the grain louse were distributed in seventy counties where need was greatest. This agency, together with the unfavorable weather of May, checked the main army's northward progress, but not until it had damaged seriously the southern portion of the winter-wheat area, particularly in Texas, Oklahoma and southern Kansas, where thousands of acres were totally destroyed. It infested similarly southeastern Colorado, where in early June farmers plowed under much wheat because of injury to the plant. Southern Nebraska also at this date was reporting impairment of wheat from the insect's inroads. Ohio and Indiana about this time noted its presence in oat fields.

LATE FROSTS IN SPRING

While this injury was progressing northward, the lowest spring temperature on record was reaching down toward the Gulf in lines that surprised and discouraged farm managers. Ordinarily, mid-April ends the frost damage in the Western wheat belt. This year freezing temperature came as late as May 27th over a large portion of that area; June 2d recorded the lowest average temperature of any June in the books, while the average of those months in any previous season. Even in the South crop experts declare the season to have been the most "backward" since 1855. The frost line on May 27th dipped down to the very edge of Oklahoma, overlapping the northward movement of the grain louse. One night's low temperature ruined over 500,000 acres of wheat in Kansas alone.

The effect of this delay in summer's approach was twofold: First, the winter-wheat acreage, which reaches as far north as middle Nebraska, was retarded in growth, and by the final shock on May 27th was greatly impaired in the heading process; second, spring-wheat seeding in the Dakotas and in the rapidly growing wheat territory of western Canada was held back to an untimely date. The increased area of western Canada farms, however, may offset to some extent the deficiency in condition.

SPECULATIVE MARKETS' FLUCTUATIONS

Speculative markets reflected weather vagaries in rapidly rising grain prices. July wheat options in Chicago and Kansas City were quoted:

	Kansas City	Chicago
March 15th.....	75 1/4	77 1/4
April 1st.....	71 1/4	73 1/4
April 15th.....	73 1/4	81 1/4
May 1st.....	75 1/4	83 1/4
May 15th.....	86 1/4	93 1/4
May 21st.....	91 1/4	101 1/4
June 12th.....	84 1/4	90 1/4

The realization, on May 21st, of the farmer's dream of "dollar wheat" followed a week of pessimistic reports of damage from frost and bugs—but it vanished when early June rains and sunshine in part had dissipated the anxiety.

The government report on June 10th was awaited with interest. The average condition of winter wheat in the United States on June 1st was given as 77.4, as compared with 82.9 a month previous; 82.7 on June 1, 1906; 85.5 on June 1, 1905, and a ten-year average of 81.1. The first report of the season on spring wheat was made, showing an average condition of 88.7, as compared with 93.4 at the corresponding date last year; 93.7, on June 1, 1905, and a ten-year average of 93.3.

EXPORT DEMAND AND CHANGES

This report indicates a probable winter-wheat crop in the United States of 381,000,000 bushels, compared with 492,000,000 bushels last year; of spring wheat, 255,000,000, compared with 242,000,000 last year, making a shortage of 100,000,000 bushels compared with last year. The six-year period shows:

	Bushels
1907.....	636,000,000
1906.....	735,000,000
1905.....	692,000,000
1904.....	552,000,000
1903.....	637,000,000
1902.....	670,000,000

London authorities state that the European wheat shortage this year will be at least 120,000,000 bushels, as compared with last year, even if Russia should raise as much as in 1906, which is considered possible. With 100,000,000 bushels shortage in the United States and 20,000,000 bushels deficiency in Canada, a possible result of the month-late seeding season, with a similar loss in India, probably offset by minor wheat countries and Argentina, and allowing other producers whose condition is yet in doubt approximately the same yields as last year, we shall have for the world's production in 1907:

	Bushels
Europe.....	1,720,000,000
North America.....	743,000,000
South America.....	162,000,000
Other countries.....	540,000,000
Total.....	3,165,000,000

While this is practically the same yield as 1903, and considerably larger than the crop of 1900, 1901 or 1902, it means that there is now a prospect for a possible 240,000,000 bushels shortage in the world's crop, as compared with the harvest of 1906.

GROWING HOME CONSUMPTION

The significance of this is the probability that the production in this country may easily prove insufficient for a year's normal consumption, necessitating a drain on reserve stocks, and consequently higher prices for the coming twelve months. Europe has been drawing off American wheat since August, 1906. For the first ten months of this fiscal year Europe took 66,000,000 bushels, as against 32,000,000 for the preceding year. For the full fiscal year the exports of wheat, including flour in terms of wheat, will aggregate about 140,000,000 bushels, against 98,000,000 in the fiscal year of 1906 and 44,000,000 in 1905.

These figures suggest that the ability of the United States to contribute to the bread-stuff supply of the other parts of the world is still considerable in years of normal crops, notwithstanding the growth of the consuming population and the drift of emigration from the agricultural area to the manufacturing centers.

It should be remembered, however, that from last year's record-breaking crop American farmers had on hand March 1st, 206,600,000 bushels, or 46,000,000 bushels more than in March, 1906; 95,000,000 bushels more than in 1905, and by far the

largest quantity in two decades. This should make up for considerable deficiency.

WHEAT SHORTAGE AND PROSPERITY

The economic relation of a wheat shortage to general prosperity is intimate. In each of the five years ending with June 30th, this country was growing an average of 660,000,000 bushels, and exporting 140,000,000 bushels. The totals are:

	Crop Bushels	Export Bushels	Consumption Bushels
1902.....	748,000,000	235,000,000	514,000,000
1903.....	670,000,000	203,000,000	467,000,000
1904.....	638,000,000	121,000,000	517,000,000
1905.....	552,000,000	44,000,000	518,000,000
1906.....	693,000,000	98,000,000	595,000,000
Average.....	660,000,000	140,000,000	520,000,000

If the present indication of a total yield of 636,000,000 bushels be maintained, the farmers will not make so bad a showing after all, though they may gather some 25,000,000 bushels less wheat than the average of the past six years of plenty. How large will be the margin between the total yield and the consumption demand will depend on how the spring wheat in the Northwest, not yet in the heading-out stage, comes on. It may, indeed, turn out that the full average will be upheld.

HOW MUCH COTTON SHORTAGE?

The prospects now are that a cotton crop of the proportions of last year is out of the question. How much less it will be is a fundamental problem in the South. The average cotton crop of the past decade has been a little over 11,000,000 bales. Last year it was 10,777,000 bales. The outlook is for something less than this—it may fall as low as 10,000,000 bales. But the milling capacity and demand are for at least 1,000,000 bales more, and the effect of a shortage would not only decrease the income of cotton growers directly (a minor consideration in the economic consideration of the matter), but would reduce the earnings of transportation companies appreciably and intensify the competition among the textile producers of the world. Each of these classes would shift as much as possible of the burden upon consumers, giving further impetus to the upward trend of cotton prices, which in seven years have increased twenty per cent.

AMERICAN FARMERS' GOOD FORTUNE

Good fortune appears to attend the American farmer, despite the belated season. The prospect for making up from foreign plenty the shortage, caused by delayed sunshine and abnormal temperature at home, is small. Europe, as has been shown, has its own crop deterioration to consider; Australia, India and the Philippines will give no marvelous returns in food production; South America is optimistic, but the extent of its harvest is yet uncertain. Lessened bushels of grain and lacking bales of cotton mean continued high prices—not to be beaten down, because nowhere in the world is an opulence of yield visible.

The American farmer is much better off than he expected to be when ice and snow in May caused alarm. On the whole, his delayed harvest, though lessened in quality, may give him a return almost as satisfactory in dollars and cents as some of greater volume gone before. With a wheat surplus from last year in his granaries, he is in a position to contemplate with equanimity the coming twelvemonth.

The consumer may have to face a problem of increased living expense, but the farmer, even if his corn gives only a moderately satisfactory yield, will forget last spring's gloomy perspective and consider himself well treated. From this source, at least, we need anticipate no material lessening of our national prosperity.

In Grub Street

EVERY man who has ever amounted to anything in this life has lived in Grub Street a part of his time, writes J. L. Harbour, and hundreds of men have deliberately chosen to remain in that street after they have achieved success in life. Perhaps a better and more refined name for this street would be the Street of Industry. But some men who like to use rather terse language refer to it as the street in which they keep "grubbing along." Did you ever do any actual grubbing on a rooty tract of timber land, getting it ready for the plow? Mighty hard work, now, isn't it? The writer knows just what it is to have his hands blistered at such work. But, after all, every man has his grubbing of some kind to do. Under the most favorable conditions most men must give their time and strength over to the duty of earning a living for themselves and others. No real man regrets this. The best discipline in the world for any man is the actual necessity of earning one's own living.

If you will read the life history of any successful man in any of the various walks of life you will discover that the men who have attained the very highest degree of success in life have spent a great deal of time in Grub Street, and that they have no wish now to live in what we call Easy Street. They like to be up and doing. You have heard of the House of Never, haven't you? No? Well, if you want to find your way to that house just follow along Easy Street, for it leads right up to the House of Never, and those who live in this house are the men and the women who have made failures of their lives partly because they refused to live in Grub Street and do the work the busy people of Grub Street do.

The noted Baptist minister, Dr. John Clifford, of London, was given a great reception on the occasion of his seventieth birthday. He has been nearly fifty years in the ministry, and has been one of the most notably successful preachers of his day and generation. In a long address given at his birthday celebration Doctor Clifford gave abundant evidence of the fact that he had spent a lot of time in Grub Street, for he said:

"I have worked. I am prepared to say I have worked hard. But I claim no credit for that; I give the credit for that to my father and mother. When I was a lad of ten I had to go and help to bring some money into the household. I was called up, often at five o'clock, in the morning, pulled out of bed and set upon the cold plaster floor, so that I might not tumble asleep and be tempted to crawl into bed again. I had to dress and go to work. I have worked twenty and twenty-four hours at a stretch, nay, I have worked more than that, thirty and thirty-six hours, without seeing my bed—that was in the days when there were no factory acts against child labor—and so I got into the habit of working. Have you read the story of Paganini? You know he was a great violinist, one of the most wonderful men with the violin, and the credit of his success as a violinist is not simply to be given to Paganini, but to his father. Paganini's father insisted upon his doing six hours' work every day with his violin when he was a boy, and Paganini attributed the greater part of his success to the discipline which he got from his father. It is a fine thing to bear the yoke in your youth. I have been working all along, and I am still at work, and intend to be at work. Activity is longevity. If a man wants to live to be ninety-nine and a half years old he must begin in his youth and work hard."

Of course he must have his playtimes. No one for a moment thinks of asking a boy or a man to work during every minute of his waking hours. They do not do this even in Grub Street. Work and play judiciously combined certainly add to one's length of years. Grub Street does not have an agreeable sound, but it is a good street in which to live. It is where one must live if one is to be successful in life.

Skilled Indians

THE work of educating Indian boys and girls by the government of the United States is still comparatively new, since it was not until 1878 that any definite or systematic action was taken in this direction. In that year forty-nine Sioux Indian boys and girls were taken from Dakota to the Hampton Institute in Virginia, with results that warranted an attempt to begin the education of other Indian young people.

There is no hope for the old Indian along the line of education. The problem of changing the spots of the leopard is not more difficult than would be that of teaching the old warrior or the old squaw to forsake the ways of their forebears. Left to their own devices they would cling gladly to the tent or the tepee, to the campfire, to the meals



cooked in the hot ashes or in the dirty iron dinner pot hung over the red coals. The blanket is more comfortable and satisfactory to them than any modern garment could ever be.

The old Indian views with dislike and distrust the attempts of the government to educate the Indian youth, and he broods in gloomy and rebellious silence over the days when to shoot with unerring aim and to ride with the speed of the wind on a bareback steed formed a part of the education of every boy. Deeds of bravery brought more joy to

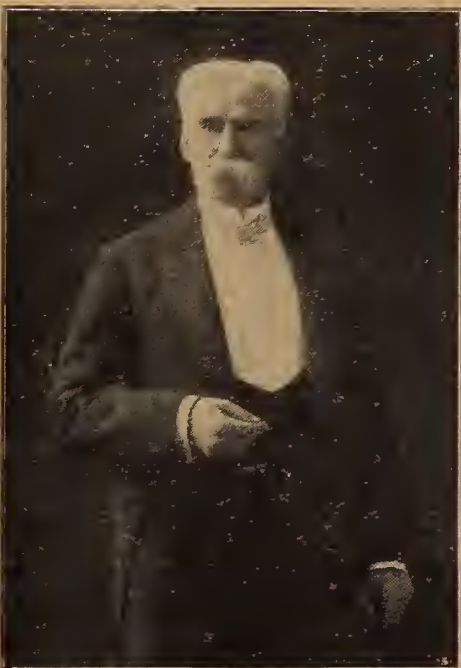


Photo by Purdy

CHARLES F. ADAMS

the Indian father and mother than any diploma from any school on earth can ever bring.

But the Indian boys and girls of today are more progressive. Some of them take readily and eagerly to higher education, and are glad to put aside the ways of the fathers. If the Indian goes to one of the schools provided by the government he returns to the reservation with new ideas thoroughly instilled into him and ready to give his fellows at home the benefit of his teachings. He may wear feathers and paint in the arena, but he is willing to put on civilized costume and mingle with crowds without attracting undue attention. He dislikes to make himself conspicuous by his Indian dress, and he falls somewhat easily into the ways of the white man. He finds it a little hard to overcome some of his racial habits, and if he is sometimes inclined to be lazy it is because he has many generations of idle ancestry behind him, and the blood of a race of idlers is in his veins. He has no traditions of work to make him energetic.

Some of our Indian boys develop surprising skill with their hands. Here is a picture of a boy of this kind. His name is Edward Nanoka and he is a full-blooded Hopi Indian who has been educated in the Indian school at Phoenix, Arizona, where there are

several hundred Indian boys and girls at school. The desk by his side is of his own designing, and every bit of the work is his. He never had a carving tool of any kind in his hand until he entered the school, and it has taken a great deal of faithful and patient effort for him to attain his skill as a carver in wood. No white boy of the age of Edward Nanoka could do finer work than he has done. The mirror frame behind him is also the work of his hands. He will probably become a teacher in some school. Sometimes the educated Indian youth lapses back into the habits of his people, but the great majority of Indian graduates do not.

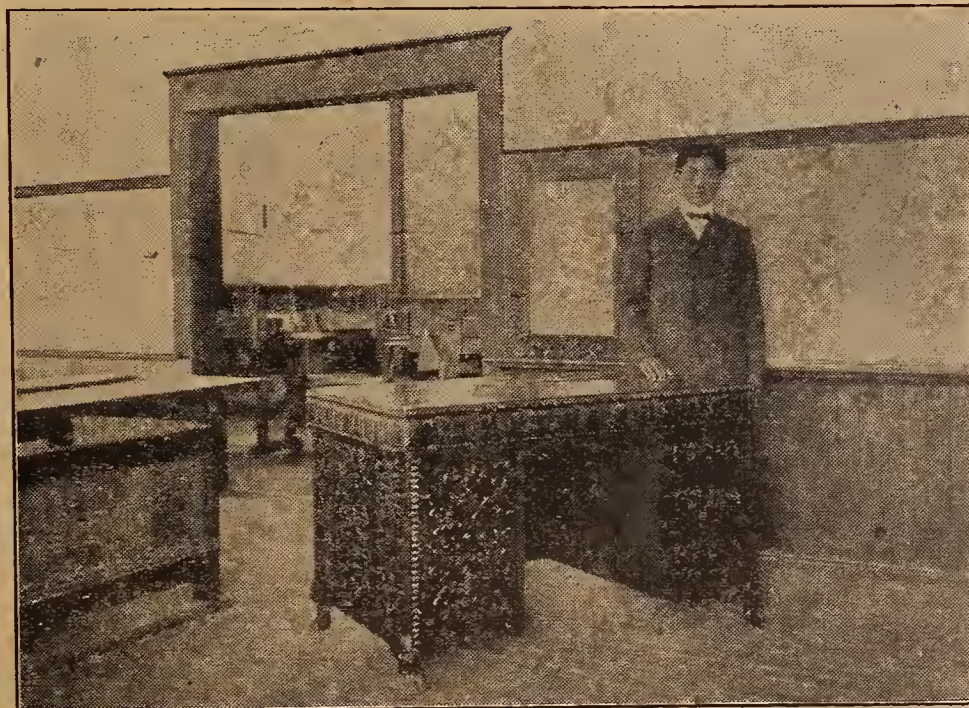
The Japanese Farmer

IT is of interest to know that of the forty-five million people in Japan thirty million are farmers, or, speaking more correctly, gardeners. The Japanese farm is really a garden, irrigated and fertilized, and scientifically tilled. And of the Japanese farmer we are told that "Measured in money he is not rich; but he dwells in a comfortable and inviting home, purged of every taint of dirt and dust. The transparent paper walls of his house, made of bark from his mitsumata shrubs, flood his dwelling with light and keep out the wind. He enjoys good food served in dainty but inexpensive dishes made of native woods. Even in the homes of the poorest there are no visible signs of poverty. There is no squalor in agricultural Japan. The humblest peasant farmer is clean, industrious and comfortable. The area of fence corners abandoned on many American farms to wild mustard, fennel and pigweed would furnish comfortable living to a whole family in rural Japan. Some idea of the trifling cost of living in agricultural Japan was given me by an American who had spent fifteen years in the empire. Frequently he takes a vacation in the farming regions. He has good food, sleeps on clean and comfortable quilts in impeccable houses, is carried about in country carts, and at the end of two weeks he finds that his total expenses have not exceeded ten yen, or five dollars."

For many centuries the sovereigns of Japan have dignified husbandry as the most important and most honorable industrial calling in the empire.

That very clear thinker, Mr. George H. Maxwell of the Homecrofters Society near Boston, will find many other thinking men agreeing with him when he says: "It is to the development of its vast agricultural resources and the creation of a closely settled population of farmers and gardeners, who will cultivate the soil by the most intensive methods, that the Middle West must look if it is to achieve its full destiny in wealth, power and population."

The various resources of the great territory extending westward from the crest of the Allegheny Mountains to the one hundredth meridian—the edge of the arid region—and from the sources of the Mississippi River on the north to its outlet to the Gulf on the south, are so largely agricultural that it offers the ideal section of the earth for the development of a nation along the lines of Japanese development, with a mainly rural population.



SKILLED WORKMANSHIP OF INDIAN BOYS

"Yawcob Strauss"

SUCCESSFUL writers of German dialect verses have been few in our country. The two men who have been most conspicuously successful along this line of verse and prose have been Charles Godfrey Leland, who wrote over the name of "Hans Breitmann," and Mr. Charles Follen Adams, whose non de plume was "Yawcob Strauss." Charles Godfrey Leland is now dead, and Charles Follen Adams rarely writes any more of his delightful Yawcob Strauss verses. His home is in the Roxbury district of Boston, and he has always lived in Boston or in one of its immediate suburbs. He is now sixty-five years old, and the "Leedle Yawcob Strauss" about whom he used to write so delightfully is a tall young man of about thirty years, for "dot leedle Yawcob Strauss" was a very real boy, and so was "leedle Katrina," who is now a young woman.

Some thirty years ago every one was reading about "Leedle Yawcob," of whom his father wrote:

I haf von funny leedle poy,
Vot comes schust to mine knee;
Der queerest schap, der gretest rogue,
As efer you did see.
He runs and schumps, und schmashes dings
In-all barts off der house;
But vot off dot? He vas mine son,
Mine leedle Yawcob Strauss.

He gets der measles und der mumps,
Und eferdyng dot's oudt;
He sbills mine glass of lager beer,
Puts snuff indo mine kraut.
He fills mine pipe mit Limburg cheese—
Dot vas der roughest chouse;
I'd dake dot from no oder poy
But leedle Yawcob Strauss.

He dakes der milk ban for a dhrum,
Und cuts mine cane into dwo,
To make der sthicks to beat it mit—
Mine cracious, dot vas drue!
I dinks mine head vas schplit abart,
He kicks up such a touse;
But nefer mind; der poy vas few.
Like dot young Yawcob Strauss.

He asks me questions such as dese:
Who baints mine nose so red?
Who vas it cuts der schmood place oudt
Vrom der hair ubon mine head?
Und where der plaze goes from der lamp
Vene'er der glim I douse?
How can I all dose dings eggsblain
To dot schmall Yawcob Strauss?

I somedimes dink I shall go vild
Mit sooch a crazy poy,
Und vish vonce more I could haf rest
Und beaceful dimes enschey;
But ven he vas ashleep in ped,
So quiet as a mouse,
I prays der Lord, "Dake anyding,
But leaf dot Yawcob Strauss."

Mr. Adams is one of the writers who have succeeded to a very gratifying degree in the world of literature without the advantage of a good education. He had to leave school when he was but fifteen years of age and enter a store in Boston. He was but twenty years old when he enlisted in the Thirteenth Regiment, Massachusetts Volunteers, in response to the general special and urgent call for recruits issued by Governor Andrew. The young volunteer saw active service in the great battles of Bull Run, Fredericksburg and Chancellorsville, and he was among the boys in blue who were wounded at the battle of Gettysburg in 1863. He was held a prisoner until the Federal troops again took possession of the town, when he was taken to the hospital in New York. On his recovery he became ward master in the convalescent hospital in the city of Washington, and he retained the position until the close of the war.

It was in the year 1872 when Mr. Adams sent into the world his first German dialect poem. This first venture was entitled "The Puzzled Dutchman," and it appeared in a juvenile magazine called "Our Young Folks." The quaint humor of the poem attracted many readers, and soon school boys all over the land were reciting it.

It was in the year 1876 when Mr. Adams' popular poem, entitled "Dot Leedle Yawcob Strauss," was published, and it made a great hit. It appeared originally in the Detroit "Free Press," and was at once copied by scores of other publications. Mr. Adams then became one of the regular contributors of the "Free Press," and most of his poems have appeared in that paper, although one may find his name in many bound volumes of the magazine.

The humor of this genial poet is of the happy and wholesome kind that warms the heart. There is a great deal of cheerful philosophy in some of it. Mr. Adams has for years been in great demand in and around Boston as a reader of his own poems, and he reads them with the most delightful German accent. Indeed, he looks very much like a German, but he is not even of German ancestry. He has published one or two volumes of poems, and in the latest of them may be found one of his most recent and successful poems, entitled "Der Long-handled Dipper," in which he sets forth the reasons why the long-handled dipper is the best of all drinking cups. MORRIS WADE.



The Noncombatant

By
Albert Lathrop Lawrence



[CONTINUED FROM LAST ISSUE]

III.

THE reform party became a fact. Mannington was elected mayor. The Consolidated Utilities prepared paper to the amount of ten millions, nine tenths of which was water. All that remained now was to obtain a renewal of their franchise; till this was accomplished Welton kept the stock off the market, as on the issue depended its value. The "Recorder" was lauding the proposed change to the skies. The "Advance" was warning the people against a gigantic swindle.

"Confound your Mannington!" exclaimed the millionaire, unable to conceal his irritation. "I wonder how much he wants for 'space' in his paper? Ten thousand satisfied Anton. Of course Anton's not mayor, and I'm willing to go higher on that score. But I've offered five times that sum—and yet I'm turned down. I don't just make him out. Mannington won't quarrel with me and he won't trade with me, either."

The face opposite was set and white. She understood the immorality these words but thinly veiled. That her lover held to his high principles caused her heart to glow, though it was sore since he had ceased to come to the house. She understood his reason for keeping away. In a sense he was her father's enemy. His refusal to quarrel, however, was most gratifying as an evidence of strong regard for her. While studying the papers carefully to learn how the fight was going, Maude relied on the talk at the breakfast table to give her the real insight into matters. Although they could not agree, it had become a habit with the millionaire to discuss his plans with her at this hour. She no longer opposed him, since she had not the strength to take her property from his trusteeship. He was her father, and she loved him, and love was her weakness.

He had told her that Mannington alone stood in his way, and so when, a few days later, he seemed buoyant with victory, the thought that they had reached an understanding entered her mind and like a vampire sucked it of trust and confidence. On nothing had he so insisted as that every man has his price. She read confirmation of her fears in an unexpected call which Mannington made that afternoon. He was not looking well, and there was much preoccupation and embarrassment in his manner. Possessed of her fear, she could think but one thing when he said he was about to do a stroke that would make further meetings between them impossible. She saw how, in the light of that early speech, he must always feel shame in facing her, and for this reason they must part. Their love had never found voice, and so nothing remained for her when he shook hands but to accept it as farewell.

When he was gone she threw herself on a couch, face down, and shed a few tears. She had learned in the main to suffer in silence. Mannington's fervid speech to her boys at their first meeting returned again and again to mock him. Women were not the only weak persons. Only her father seemed strong and to what a purpose!

"Curse Mannington!" fumed the millionaire next morning. "I no sooner get him where I want him than he bobs up somewhere else to cause trouble. If you had played your cards as I wanted you to—as I should have played them in your place, with your beauty and charm—"

"Poppa!" she cried in helpless protest, her cheeks colored with shame, anger and pain.

"—we should have him now under our thumb." He finished the harsh, unnatural speech.

"What is it now?" she asked, humbling herself in the hope to learn of her lover's rectitude.

"Haven't you seen the papers? There's a complete tie-up on our lines. The men have struck for a nine-hour day. As if it hadn't cost me enough already to make good the Consolidated Utilities! They say they'll arbitrate, and have suggested the mayor as a court. But I'll fight 'em first. I'll fight 'em to the bitter end. Mannington has always favored Labor as against Capital. He's the real instigator of this strike. Confound him! won't he

be satisfied till I divide my fortune with him? I wouldn't care about the cost, he might ask what he pleased, if you and he—"

Something snapping in her eyes warned him not to go further. This was not all opposition to his course; pride had taken love in hand, and there was a momentary revolt against the man who could sell his honor for money and then discard her. "Divide my fortune with him" left no room for the hope she had entertained. A wild impulse to ask what sum had already been given possessed her an instant, for it seemed the measure of value her lover had placed on her. Only the habit of suffering in silence kept the question back.

Not a car had left the barns when Welton reached them.

"What's the matter, Knowlton?" he demanded, stepping from his automobile and addressing his superintendent. "Why aren't the cars moving? Didn't I tell you to engage new men?"

"But they daren't work, sir. They daren't go out."

"Daren't?" roared the millionaire. "Don't you see, sir, at the corner? The striking employees are gathered in a mob! They'll kill the first motorman that ventures out—"

"Kill—I guess not!" It was said with the calmness that settles on one in a death struggle. Welton mounted the platform of a car. "Fifty dollars," he called to a score of men holding off through fear, "to the motorman who will stand back of me and send this car over the line!" Awaiting a volunteer, he asked Knowlton, "Have you telephoned the mayor for additional police protection? The mayor—Mannington!" he hissed, as if something baffled him. "If he fails me now I'll have him impeached!" he vowed with one of his rare oaths.

"He has sent us all that can be spared from down town," answered the superintendent. "He has telegraphed the governor for a regiment of militia. If you will wait an hour, sir—"

Welton turned to look for the motor-

the old football days. But the blood became mixed with poison at the thought that the town his father and he had made was ready to turn against him now. How many thousand dollars had he paid to these creatures that defied him! They would dictate how he was to run his business, too. The hand in his coat pocket fastened on the weapon he had found in his office.

"Sir, shall I stop? Shall I put back?" asked the cautious superintendent. They were near enough to see expressions on the angry faces that blocked the track ahead.

"Give her more 'speed!' growled Welton.

The men recognized him. Knowlton had counted on this as the one thing to carry them safely through. A fellow touched his cap—but it was mockery more than respect. The next man, with something like childish rage, threw a wad of paper at the superintendent. It might have been a brickbat in its effect on Welton. He drew the revolver from his pocket and glanced down the ranks of the strikers. At sight of the weapon they fell back, with that defiance which precedes the spring in a beast brought to bay. The car had entered the mob now. Crash, crash, went the window-lights in the rear. The air back of them was filled with flying missiles. Only the pistol and the pitiless eye of the millionaire kept those in front from attacking. It began to look as if they would get through with no harm but to the car. A smile of triumph formed at the corners of Welton's mouth, and he turned for a glance back as a howl of baffled rage went up from the mob. His movement gave a burly sympathizer, straggling on the outskirts of the mob, his opportunity, and the howl of rage was the inspiration needed. The brick which he hurled struck Welton fairly in the temple, and he fell a limp mass at his superintendent's feet.

When Mannington hurried up the steps of the dead millionaire's home the undertaker had not yet put his badge on the

cried, lifting her head in such defiance as only the weak and desperate can assume in moments of despair. Her hand moved as if it would strike. "Murderer! Yes—murderer! You killed him as truly as though you had thrown the brick! Don't I know all you have done? 'And for what! Go! Leave me—leave this house!'"

While she spoke he had stammered feebly, "Miss Welton—Maude! I don't understand—I came to help— You misjudge—"

"Mason," she called to the butler in high, imperious tones, "will you put him out? Will you call the police? I have ordered him to go, and he defies me!"

Beautiful in all her grief and madness, Mannington looked dumbly on her a moment. Till then he had forgotten those relations with her father, remembering only his love and her helplessness. In the light of her eyes he saw the situation in its hopelessness, and turning, came away, bowed as never before under the feeling of crucifixion in the course he had pursued.

IV.

FOR DAYS Maude was prostrated, and many links in the affairs she had watched so closely escaped her. After the funeral, leaving everything to her lawyers and agents, she sailed for Europe in the company of a cousin, a matronly woman of fifty. Crushed by her father's death and suffering under a discredited love, her one thought was to get as far as possible from the commercialism that had wrought her unhappiness.

Three thousand miles of ocean, however, were no barrier to the seeds of memory, and day after day the lonely girl lived over those last months. She had loved her father with rare devotion in life; in death he became the peer of saints. This did not necessitate a forgetting of those business methods which had seemed so questionable. Her love had nothing to do with merit; it was in itself the beginning and end.

The bribe taker is no worse than the bribe giver. Maude felt the truth of this in time without the use of harsh terms; for suddenly, in her loneliness, canonized father and discredited lover appeared on the same plane. As merit had had a minor place in regard for her father, it ceased now to be a controlling factor in the other case. And love was again able to justify itself.

With the gravity of fatal error it came upon her one day that in fleeing to Europe she had left affairs at home go on in the old painful way, when, for the first time in her life, she had a clear field for changing them. No sooner did she see matters in this light than she arranged for a speedy return.

Meanwhile Mannington had become his party's candidate for governor. On the voyage over Maude got out some half-understood cartoons clipped from the recent papers. In one, not at all friendly to the candidate, as it appeared to Maude, this high office was pictured as a cage, in which it was proposed to fasten Mannington. He was represented as taking a fiendish delight in eating certain monsters off whom he had already grown enormously fat. His voracious appetite was shown by a fierce display of teeth—a prominent feature in Mannington's face, and one the artists made the most of. At his feet lay the bones of a giant, recently stripped of its flesh, labeled "Consolidated Utilities." Mannington's early speech to her boys, and the ill-gotten gains she read in his caricature, became personified in two little imps, that danced before her eyes and mocked the love which begged to live in her heart. This cartoon met speedy destruction.

While still out of sight of land a Marconigram was handed her from Clara Rolingwood, inviting her to stay a week at her country house before going on to Olumbia. So, instead of occupying the stuffy stateroom of a Pullman car that night, she slept in one of her friend's airy chambers.

"You are tired to death, I know, and shall see no one," Clara had said, after impulsively greeting her, standing off to admire her in the black gown she wore. "Frank has the house full of politicians,



"At sight of the weapon they fell back, but with that defiance which precedes the spring in a beast brought to bay."

man he had expected to volunteer. But none had stepped forward. "Cowards!" he muttered through his teeth. "I'll run the car alone!"

"If you are determined, sir, I'll go with you," said the superintendent.

"In just a minute, Knowlton," answered the millionaire, accepting his offer with a nod of approval. He had taken another glance down the street toward the surly, surging mob that successfully defied the police, and now disappeared into the building where he had a private office. He returned presently with a step wonderfully quick and elastic for his years. "All ready, Knowlton," he said, and took his place at the left of the superintendent, who released the lever that applied the current. Welton felt his veins swelling with the blood that had carried him to victory in

street door. Only the day before he had said good-bye to Maude for all time, as he thought. Now, with a lover's blindness and the egoism of his suffering, he saw no one to comfort her or take the lead in matters if he did not. The house was in confusion, and he seemed forgotten the moment the butler gave him admittance. On the way he thought out what he should do, but the splendor of the place abashed him now, and his presumption reacted like a nightmare to paralyze his muscles. Then Maude, in one of those momentary flights from her dead, stumbled into the room. He was not prepared for her disheveled appearance, for the mortal agony that marked her face; these, with the character she put upon him, gave climax to the scolding horrible dream.

"You, sir, here! How dare you?" she

but they need not concern us. I am really all alone." And to confirm this statement she ordered lunch to be served where they were.

In the morning Maude rose early for a stroll about the spacious grounds, and in the bend of a secluded path met one of those politicians—a man she was thinking of, but believed to be at the other end of the state. He was equally in ignorance of her whereabouts; and the two coming suddenly face to face were bound to show something of their hearts, however contrary to their wills such revelation might be. The girl's first impulse was to fly; but the man's word—the one thing he could utter after the thousand dialogues he had imagined between them in their year's separation—held her with irresistible bonds.

"Maude!" his lips cried, to confirm the testimony of his eyes.

"Oh—oh!" she gasped, with a movement of her hand to her side. "I didn't know you were here!" She began in confusion, but his unconscious exclamation made her mistress of the situation in a moment.

"Miss Welton!" Mannington said—his first words aloud, he believed. "I thought you were in Europe!"

"I returned yesterday," she explained, meeting his eyes. They stood apart, as if rooted to the ground where surprise had come upon them. "Oughtn't we to shake hands?" she asked, smiling as she came toward him. Then the memory of their parting swept over her like a cold flood,

bringing a return of her embarrassment. "Oh, but I beg you," she began, the picture of pain and contrition, "first, forgive me for what I said at—at father's death. I know you didn't do it! I know you weren't to blame! It was grief that made me charge you!"

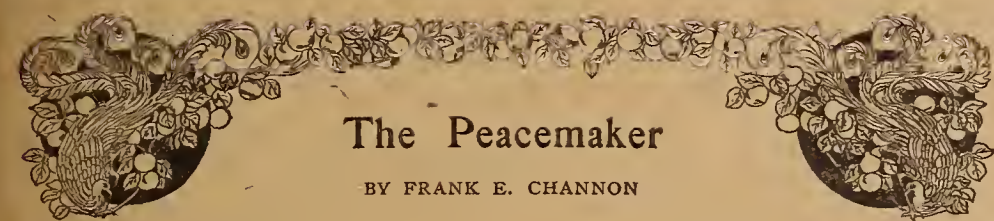
"Please don't speak of that, Miss Welton," he interrupted from the depth of his own emotion, and took the hand she had begun to withdraw. "I was very sorry I couldn't help you then," he continued. "I wanted to very much. I didn't blame you. I know how my action at that time must have appeared to you—perhaps does yet. It was the hardest bit of work I ever performed. I feared it had placed me forever beyond your friendship; and before—I—I had—hoped for so much."

He still held her hand. There was nothing like shame in his words or manner. Never had he appeared more manly. She lifted her eyes, with their imperfect understanding, and met his for one moment. There was something so warm, womanly, trustful in their light, yet something that groped, appealing to him at the same time—he could no longer withstand the impulse within.

"You knew I loved you, Maude," he said.

Her lids dropped before his gaze. "I—I—I hoped so," she faltered, and then met his eyes again with a confession in her own blue depths that resulted in losing herself in his arms.

[THE END]



The Peacemaker

BY FRANK E. CHANNON

IT WAS on a little toy, single-line railway in England. It has a long name—"The Banbury, Cheltenham & Oxford Railway Company, Limited"—but it runs a very short distance; just wiggling in and out for about twenty-five miles amongst the green Cotswold Hills, stopping every half mile or so at every little collection of cottages, when the guard gets out from his van at the rear of the train and saunters very pompously up and down the well-kept gravel platform, and nods to friends who happen to be standing around, and presently, when he is good and ready, waves his flag to the engine driver, and then the engine gives one of those heart-rending little screams, that seem peculiar to the British locomotives, and is off again for at least another half mile.

I wanted to see the Roman Baths at Chedworth, and this line seemed to serve best for my purpose, so I settled myself comfortably in a smoking compartment, and waited patiently for the train to start. I thought at first I was going to have the carriage to myself, but almost at the very last moment a large and powerful-looking man entered. He might have been John Bull himself, from the look of him—broad shoulders, red-faced and jolly-looking. Top boots came to his knees, and he carried a cane. As soon as he was seated he drew a pipe from his pocket, loaded up and commenced to smoke. Between us we raised a considerable cloud, but this did not deter a lady from rushing up at the first place at which we stopped, and climbing into the carriage.

"Smoking, madam," observed my companion, warningly.

"Oh, dear me, is it? I didn't notice. Well, I can't get out now, we're off. You'll have to stop smoking, that's all. 'Punch' cannot endure tobacco," and she pointed to a little Skye terrier she was carrying in her arms.

At these words all the joviality seemed to go out of my companion's face. Upon the entrance of the lady I had hurriedly hidden my pipe, for a glance at her face had assured me she was not the sort to approve of smoking. My companion was in no ways daunted by her appearance, however, and was also determined to have his smoke out, lady or no lady, dog or no dog.

"You could have seen it was a smoking compartment, madam," he grumbled. "It's labeled on both windows." As he spoke he emitted a great cloud of blue smoke that seemed to fill the small space.

The lady coughed and the dog growled. The big man glared wrathfully across at them both. I withdrew myself into a corner and watched, for it seemed to me that trouble was coming. Nor was I mistaken.

"Take your pipe out of your mouth, sir!" ordered the lady with the air of a school teacher addressing a scholar. Her sharp, angular face was all puckered up with anger and annoyance.

"I will not, madam," retorted the big man, scowling across at her. "This is a smoking carriage, and I stand upon my rights as an Englishman."

I hid myself yet further away in the corner and watched.

"Take your pipe out of your mouth, sir!" screamed the lady.

"Have you a pass for that dog, madam?" demanded the man.

"It's none of your business!" she snapped back.

"More my business than it is yours to tell me to take my pipe out of my mouth," thundered back the smoker.

"I'll teach you!" snapped the lady; and before the astonished man could realize her purpose, she had whipped the pipe from between his teeth and hurled it through the open window.

For a moment he sat there open-mouthed and aghast. Then he rose to his feet.

"He goes, too," he muttered hoarsely, and in another moment he had the Skye terrier by the scruff of the neck.

"Oh, oh—oh!" screamed the lady, but it was too late. Before she could prevent it the dog had followed the pipe out of the window, and the two passengers stood glaring at each other.

"You old wretch!" shouted the woman. "I'll have the law on you, see if I don't!" "Don't speak of the law, madam!" shouted the big man. "You stole my meerschaum pipe! You had no right in this carriage. You have committed an assault. You have committed a robbery. I'll have the law on YOU, if there's one in England, see if I don't!"

I scarcely know where the quarrel would have stopped, if the train had not fortunately come to a halt at a little station.

In a moment both their heads were out of the windows, and both were calling loudly for the guard.

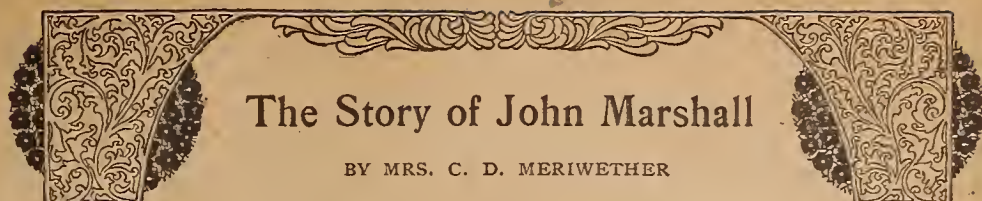
"Now, what's the matter?" cried the official, running up.

It took some time for him to understand just what had occurred, and then he looked up and down the platform in search of an inspiration. I had crawled out from my seclusion by this time, and then I heard the guard exclaim, "Well, I'll be—blowed!"

Several people had gathered around the carriage by this time, and I noticed them all looking down at the ground. I gained courage, and pushed my way forward. I gazed over the head of the man, and the sight that met my eyes nearly took my breath away. It seemed to have taken everybody's, for not a soul spoke. All stood around, with open mouths, looking down, and there in their midst sat a little dog—the Skye terrier I had seen recently hurled from the train—and firmly grasped by the middle of the stem, in his be-whiskered mouth, was the pipe which had preceded him by a few seconds.

The situation was very plain. He had picked up the pipe, which he had seen hurled from the window, followed the train, and here they were, both of them, dog and pipe.

The lady sprang out and caught up her pet; the man wrested the pipe out of its mouth. The guard escorted the lady off to another carriage; the man crawled back into his own again, and all was well that ended well—thanks to the dog.



The Story of John Marshall

BY MRS. C. D. MERIWETHER

ONE of the most famous statues in the United States is in the beautiful park which surrounds the capitol, at Richmond, Va. It is the equestrian statue of Washington, surrounded by bronze statues of John Marshall, Thomas Jefferson, Andrew Lewis, George Mason, Thomas Nelson, and Patrick Henry. These men are national celebrities, and as a nation we owe a great deal to their leadership. Three out of this group—Washington, Marshall and Jefferson—were adjudged by a committee of one hundred men chosen from the different states as worthy for enrollment in America's Hall of Fame. And of this distinguished trio, we shall give a sketch of the life of John Marshall.



He was born September 24, 1755, in Fauquier County, Va. He was the eldest of fifteen children. His father was Col. Thomas Marshall, a man of cultured mind and fine character. He and Washington were born in the same county, attended the same school, and he served under Washington as a surveyor of the estates of Lord Fairfax, and afterward as an officer in the French War and the War of Independence.

His mother was Mary Randolph Keith, a member of the Randolph family so famous in the history of Virginia. Thus it is seen that he was born of good family.

In his boyhood he was taught by his father, of whom it is said he took great care in the education of his children. Marshall loved and admired his father, and declared him to be a far abler man than any of his sons.

Brought up on his father's farm, containing six thousand acres, and lying under the Blue Ridge, he had plenty of room for all sorts of boyish sports and physical exercise. No boy in the neighborhood was a better rider, and he became skilled in climbing, jumping and running. When a soldier in the Revolutionary Army, it was usual for the soldiers, when idle in their quarters, to engage in matches at quoits or in jumping and racing. He could, with a running jump, go over a stick laid on the heads of two men as tall as himself, and could beat at a race any of the officers. He often ran without shoes, and, as his mother knit white heels to his blue yarn stockings, he was given the sobriquet of "Silver Heels."

When about eighteen years of age, he began to study law, but he soon dropped it and joined the military company in a regiment in which his father was major. As lieutenant he would drill his company for a time and then inform them that if they wished to hear more about the war and would form a circle about him, he would tell them what he understood about it. The circle was formed, and after he had addressed them for an hour he would challenge some of them for a foot race or some other athletic exercise at which there was no betting.

In 1777 he became captain, and took part in the battles of Brandywine, Germantown, Monmouth, and other noted battles. He was sent to Virginia to take command of a new corps to be raised there, meanwhile attending lectures on law and philosophy at William and Mary College. The next summer he was licensed to practise law, and often served as judge-advocate in the army.

He was idolized by the soldiers and his brother officers. A fellow-officer and messmate describes him, during the dreadful winter at Valley Forge, as neither discouraged nor disturbed by anything, content with whatever turned up, and cheering everybody by his exuberance of spirits and his inexhaustible fund of anecdote. The noble, uncomplaining and good-humored way in which he shared the hardships of Valley Forge gained the warm esteem of Washington.

During a visit to his father in Yorktown he met Miss Mary Willis, daughter of Treasurer Ambler, who lived next door to Colonel Marshall. Although this young lady was only fourteen years old, he became her lover and in three years made her his wife. He was an exemplary husband, as tenderly devoted to his delicate wife to the end of their married life as when she was first his bride.

After the war closed, he devoted himself to his legal practise. The legal side of this man stands out preëminent, and as a lawyer he ranks second to none. He was six feet in height, and cared but little for conventional dress. One day he was pointed out to a man who had a case

coming on in the Court of Appeals as the best lawyer in Richmond, but his personal appearance had so prejudiced the man that he refused to employ him. After hearing him plead a case in court, he changed his opinion and engaged him.

When a member of the Assembly, he could support with marked ability and vigor any party question or issue without losing the esteem and friendship of even his most earnest opponents.

He declined the attorney-generalship. He was appointed Minister to France under President Adams, and when abroad acquitted himself with great credit. He was elected to Congress in 1799, and one year later he was made Secretary of State.

In 1801 Adams appointed him Chief Justice of the United States Supreme Court. He had now reached the highest position in the legal profession, and here his influence was acknowledged to be paramount. So eminent was he that, notwithstanding he had attended college but a few months, several universities conferred upon him their highest honors, and Harvard made him doctor of laws.

He died in Philadelphia, where he had gone for medical treatment for an attack of liver complaint. The body of the great Chief Justice was carried home with every demonstration of respect and reverence. It was buried by the side of his wife, in the Shockoe Hill Cemetery, in Richmond.

Like Franklin, he wrote his own epitaph, which is inscribed upon a horizontal tablet by the side of a similar one to the memory of his wife: "John Marshall, son of Thomas and Mary Marshall, was born the 24th of September, 1755. Inter-married with Mary Willis Ambler the 3d of January, 1783. Departed this life the 6th day of July 1835." He also wrote this epitaph, which is inscribed on the tablet over his wife's grave: "Sacred to the memory of Mrs. Mary Willis Marshall, consort of John Marshall. Born the 13th of March, 1766. Departed this life the 25th of December, 1831. This stone is devoted to her memory by him who best knew her worth and most deplored her loss."

Marshall was popular with the mass of the people, and was wholly unselfish in his dealings with his fellow-men. He gained the love and respect of all classes by his piety, modesty and amiability.

Went One Better

An Englishman was being shown the sights along the Potomac. "Here," remarked the American, "is where George Washington threw a dollar across the river."

"Well," replied the Englishman, "that is not very remarkable, for a dollar went much further in those days than it does now."

The American would not be worsted, so after a short pause he said, "But Washington accomplished a greater feat than that. He once chucked a sovereign across the Atlantic."

The Farmer in Town

No, yer city life don't suit me,
Though you've bragged it up a lot,
An' it is true you hev conveniences
We country folks hain't got,
But my old farm's rollin' acres—
Room fer cow an' bird an' bee,
Beats yer cramped-up city quarters,
An' it's good enough fer me.

Yes, it's mighty fine an' handy,
When ye're needin' things to eat,
Fer to hev 'em brought right to you
By a wagon in the street;
But when it's Sat'day evenin'
I kin go to town, you see,
Fer my pipeful an' my groceries,
An' it's jest a treat to me.

Yes, your auto is a stunner,
Speshly when it hits a man—
But I dunno as I need it,
Fer I've got a spankin' span,
That I raised myself—I hitch 'em
To the old spring wagon—Gee!
How the wind goes hummin' by us!
An' I guess they'll do fer me!

Yes, it certainly is handy,
When ye're needin' of a light,
Jest to touch a 'lectric button,
Making daytime out o' night,
But the lamplight's sorter meller,
When from toil at night we're free,
Gethered 'round the table readin',
An' it's handy 'nuff fer me.

Smell the smoke an' hear the racket!
Guess it's time I lit fer hum!
Jest one day's enough an' plenty
In the town fer me, I vum!
New-cut hay and fresh-turned furrers—
Smells that fill my heart with glee;
Cluck of hens an' cowbell's tinkle—
They're the sounds that's best to me!
—Daisy Wright Field in Rural Magazine.

Too Late

RECENTLY a young woman was saying how happy she was to be in a neighborhood where the people were friendly and kind. She had lived a year on a fine farm in a good house among neighbors who never noticed her because they were too busy to be friendly, so she gladly exchanged the fine large house for a little shabby one to be among friends. She said some of the neighbors did not know they had moved until two months after a new family had taken possession, and when they saw her in town they told her they always intended to visit her, but somehow never had time. It is not surprising that the woman who had spent a lonely year in their midst answered coldly that it was too late to make up for neglect.

We hear a great deal about city people being ignorant of the affairs of their next-door neighbors, but in some country communities there is just as much indifference as in towns. In the city people have sights and sounds to occupy their minds, but strangers in the country are apt to have a hard time of it unless neighbors are real neighbors. A lonely old lady who could not get away from her son's home begged the few ladies who came to see her to "come soon again," but few of them did. They were active, busy women with many cares, but they could have done the week's patching talking with the lonely old lady as well as at home if they had made a little effort. They were shocked to hear of her death, and sorry they had not paid more attention to her, but it was too late to atone for the past.

Many a lonely father thinks back over the times when he made the boys work early and late, with little time for pleasure, only to be deserted as soon as the boys grew up. He wishes he had given the boys a little spending money, a few holidays and home pleasures, but the boys are gone now, and the money they helped accumulate does him little good. There are girls in every town who ought to be with parents on the farms, but nothing could induce them to go back now. The time was when a little encouragement and joy might have held them, but the fathers and mothers were too busy to look after them.

The most pathetic sight on earth is that of middle-aged people trying to enjoy the things they should have had in youth. They spoil their grandchildren to atone for neglecting their own in earlier years; they attempt to enjoy fine houses and fine clothes; they buy expensive and useless gifts to make up for the things they were too stingy to give their little ones long ago, and they are ever trying to forget the blunders of their younger days. A young woman sighed when her father presented her with an ugly piece of silverware, and said, "A five-cent mug would have given me more joy years ago than this expensive gift. We were the only children in the neighborhood who did not get Christmas and birthday gifts, and I shall never forget the heartache I used to have at those times." Do you think any gift will ever blot out the bitter memories in her heart? Of course not. The old wound remains to ache every holiday season.

Every person who has ever tried gardening knows what happens when seeds are grown, or an attempt is made to grow them, out of season. Once in a long time a very fine, late fall brings out a second crop of spring vegetables, but it takes an exceptional year to do it, and we really don't care for peas in late October. To be in their prime they must be eaten in June when in season. Every once in a while some newspaper prints a notice that the raspberry or strawberry vines on some subscriber's farm have put out a second crop of fruit, but it is a sorry crop at best. Of course it is better than nothing, but it is too late to be in its prime or be enjoyed very much. And it is just the same with kind deeds and words. They must be sown in season if a full harvest is to be enjoyed. There is no finer sight on earth than a happy family enjoying alike the work and pleasures of rural life. There is time for neighborly kindnesses, home joys and plenty of good hard work. For people who live in this way it will never be too late to be kind and helpful.

Dishonesty in the Family

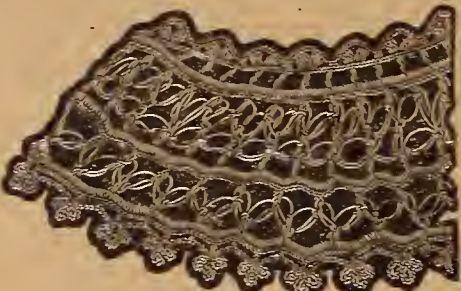
I CANNOT, even now, recall a certain incident of my motherless girlhood without a little pang of self-pity.

I lived with an aunt, whose husband was a well-to-do New England farmer. The idea of my "going out to work" was considered preposterous by my relatives. When I timidly expressed a desire to teach a term of school, or work a while in a near-by factory, I was met with the assurance that they were amply able and perfectly willing to provide for "one girl."

Yet at the age of seventeen I had never been allowed a dollar for spending money. I had never selected a dress for myself, or known the bliss of gratifying my in-

dividual taste in the purchase of the merest trifle. Fancy my delight when I became the possessor of my first five-dollar bill, the gift of a dear, absent brother. My joy, however, was of short duration. A day or two after the receipt of the treasure it was borrowed by my aunt to pay some bill which was presented in the absence of her husband.

Speedy payment was promised, and though I parted with the money a little reluctantly, I did not doubt that it would be repaid. But day after day passed and no allusion was made concerning the petty loan. Of an extremely timid and reticent nature, I asked no questions, made no complaint. In secret I shed many tears over the disappointment—tears which



LINGERIE EDGINGS

flowed more freely from the thought of the injustice done me than from the loss of the money.

I suppose my aunt thought lightly of the matter. Perhaps she reasoned that my help hardly compensated her for my food and clothing. But the sting of her perhaps thoughtless treatment rankled in my heart for many a day.

This experience of mine has led me to sympathize with children and dependent young people who suffer similar wrongs from parents and guardians.

The children of the farm are given calves, lambs or fowls, which they feed and pet and on which they lavish much affection. But the objects of their loving care are sold at the convenience of the father, or still worse, slaughtered and served on the family table—nothing short of a tragedy to the outraged little people who have cherished them as their own.

Bank robbery is a very common crime of parents. If a little money is needed for any purpose, the safe containing the hoarded nickels and dimes of the child is rifled without hesitation, and often without an explanation. It may be necessary sometimes to borrow the small savings, but regret should be expressed for the necessity, and promise of reimbursement given and kept. In nine cases out of ten the child will loan papa or mama the contents of his bank without a murmur if convinced that he will be refunded.

Let us deal as honestly with the children as with our adult neighbors. It is useless to preach what we do not practice, and we have no reason to expect the child, whose sense of justice has been repeatedly outraged, to become a high-minded, honorable man or woman when grown.

D. A. H.

Helpful Hints

WHEN it is dusk and the sewing-machine needle becomes unthreaded, just raise the needle to a threading position, slip a piece of white paper or cloth under needle and see how easy you can thread it.

If your flat irons do not heat fast enough, try placing a dripping pan over them.

A mixture of five cents' worth of essence of lavender and the same quantity of water sprayed around the rooms is especially disagreeable to flies.

When a new shoe proves to be too tight over one of the sensitive joints of the foot, with a button hook press the lining at that point, stretching the leather outward.

Trim the edges of the hole in your oilcloth to be mended, place oilcloth patch beneath, and paint the edges on the wrong side. Press down tight against the patch, and let dry. Paint all worn places, using the same color as the oilcloth.



Lingerie Edgings

No. 1

MAKE a chain the length required for the lace.

First row—1 d c into every fourth st with 3 ch between.

Second row—3 s c into every loop, 1 s c on each d c.

Third row—* 2 knot sts, catch into fourth s c *. Repeat across.

Fourth row—1 knot st, catch to first knot, 1 knot st, catch to next knot, and so on across.

Fifth row—* ch 6, d c on first knot *. Repeat.

Sixth row—6 s c in each loop, 1 s c on each d c.

Seventh row—2 knot sts, catch into center of 6 s c, 2 knot sts, and so on.

Eighth row—* ch 7, s c on first knot *. Repeat.

Ninth row—7 s c in each loop, 1 s c on each d c.

Tenth row—* ch 3, 1 d c on center s c of 7 s c, ch 5, catch into top of d c just made, ch 5, catch in same place, ch 5, catch in same place, ch 3, s c between the little scallops formed by the s c of last row *. Repeat.

No. 2

Make chain the required length.

First row—Put 3 tr (thread over three times) into every seventh st. In making the tr, keep the last stitch of each on needle until the three are made, then draw thread through all the stitches. Between each group of tr, ch 3.

Second row—* Put three groups of 3 tr each with 3 ch between groups into first hole, ch 4, s c in next hole, ch 4 *. Repeat across.

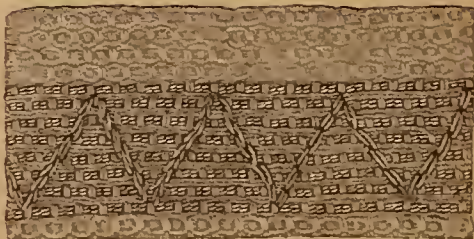
Third row—* ch 6, s c or s c of last row, ch 6, 4 tr between first and second clusters, ch 3, 4 tr between next two clusters *. Repeat across.

Fourth row—[* ch 6, catch back into with slip stitch into end st *. Repeat twice. S c on top of first cluster of tr, ch 6, slip st into second st of chain, s c between clusters, ch 6, slip st into second st, s c on top of second cluster, * ch 6, slip st into second st *. Repeat twice. S c on s c of last row.] Repeat between brackets to end.

JOYCE CAVENDISH.

For Belts and Toweling

YOU will find illustrated here an old idea in a new form. Several years ago every one was engaged in making sofa pillows of huckaback toweling darned with colored thread. This belt is made in



HUCKABACK FOR BELTS AND TOWELS

the same way. Colored thread may be used—always double—although many prefer the white because it launders so nicely. By looking closely at the design any one can follow it easily. The edges are turned under and the belt lined with lawn or any other thin material.

Huck is so narrow that a belt can not be made crosswise of the goods without piecing, but if the needlewoman will turn the goods wrong side out she will see that the small threads picked up in darning run the opposite way from what they do on the right side. By purchasing even less than a yard and working on the wrong side she may make several belts at a small expense.

The long fringed linen towels are no longer used. The hemmed huck and linen ones are coming into favor, and the particular housewife often embroiders the ends.

The second illustration represents a darned design for the huck towels. Done in delft blue or in a shade carrying out the color scheme of the room, it is beautiful. This is only one of many designs and many others will suggest themselves to busy fingers.

C. B. OSBURN.

Bubble Blowing

THE problem of entertaining children, ever a perplexing one to the busy mother, is really not hard in the summer time, when the many outdoor games are made possible. The question of keeping the little folks at or near the house becomes troublesome at times, and the best way we know of to bridge the difficulty is to have the young people engage in a bubble-blowing contest. Indeed, it is said that a person never becomes too old to be attracted by a contest of this kind among the little folks. The wise mother, therefore, will endeavor to keep on hand a few common clay pipes for the purpose, or in cases where pipes are not available, the ordinary spool will serve the purpose, though not as well as the pipe. Into strong soapsuds dip one end of a large spool, draw out and then blow. If the bubble refuses to form, then dip the spool in the suds again and blow a few bubbles while the spool is in the water, raise it quickly from the soapy water, and you will have no trouble in sending a beautiful bubble into the air. As a means of keeping the children entertained bubble blowing has few equals.

Savory Drippings

AS a substitute for butter in seasoning vegetables there is nothing better than sweet savory drippings. Not all meats supply fats that are savory in which the word is employed here. The following fats may be employed alone or in combination for seasoning vegetables: The fat from fried sausages, ham, bacon and pork, and from roast pork, veal and chicken. Fats trimmed from poultry, veal, pork and ham may be fried out carefully and saved for use in cooking vegetables. Such fats have a flavor which comes from seasoning, as in sausage, from smoke, as in ham and bacon, or from brown material, as in roast meat. The fat skimmed from the water in which poultry has been boiled and the fats skimmed from the gravies of most roast meats may be clarified and also employed in the preparation of vegetables for the table. Great care must be taken that all these fats are clean and sweet, and that the temperature at which they are fried out shall not be so high as to impair the flavor. Burned or scorched fat is not only unpleasant in flavor, but is a frequent cause of indigestion.

When rendering the trimmings of fat meats, add a small onion or a shallot (do not cut), a few leaves of summer savory and thyme, a teaspoonful of salt and a little pepper. This seasoning is enough for half a pint of fat. Keep the drippings covered and in a cool dry place.

MARIA PARLOA.

American Tomato Salad

AFTER peeling some nice large tomatoes, chill, and slice rather thick. Then lay a slice of soft American dairy cheese on each slice of tomato, the slice of the cheese exactly matching that of the tomato. Spread with mayonnaise, then add a second slice of tomato, and another spoonful of mayonnaise on top of that. It should be served on individual plates.

Robert E. Lee Cake

TWELVE eggs, their weight in sugar, half their weight in flour, the juice and grated rind of two lemons and one salt-spoonful of salt. Bake in jelly-cake plates. To two and one half pounds of sugar add the juice of four oranges and the grated rind of two, and the juice of two lemons. Mix all, and spread between the cakes when quite cold; also spread over the top. This quantity makes two cakes of three layers each.

We'll Keep the Little Farm

From Young People's Weekly

Well, Jane, I guess we'll keep the place; We've lived here, you and I. Upon this little farm so long. Let's stay here till we die. You know I thought I'd sell it once, To Jones, or Deacon Brown. And take the money we have saved And buy a house in town. But when the buds begin to swell, And grass begins to grow, Somehow it doesn't seem to me I ought to let it go.

I love the crimson clover. And the fields of waving corn; The quiet, balmy evening And the fragrant, dewy morn; The pink and snowy blossoms Hanging on the apple trees; The chirping of the crickets. And the humming of the bees, I love the summer's honey breath, The blushing buds of May; The teeming autumn, rich with fruit The scent of new-mown hay; The noisy babble of the brook, And laughter of the rill; The lowing herds upon the heath, And flocks upon the hill. And when I think of leaving all, It fills me with alarm; So, after all, I guess it's best To keep the little farm.

Tomato Surprise

SELECT round tomatoes of even size, peel, and when firm, from being thoroughly chilled, cut in two and remove the centers. Break carefully into each half a fresh uncooked egg, dust with salt and pepper, cover with a layer of thick white sauce, then one of grated cheese. Cook in a hot oven until the egg is set.

Home-Made Napkin Ring

A Dainty napkin ring to hold the guest's napkin and distinguish it from the others of the family is made by covering small brass rings, either by crochet or buttonholing, with floss of any pretty color, overlapped, and threaded with No. 2 satin ribbon to match the floss, and ended with a bow at one side. It makes one of the daintiest of little articles for a gift or a prize. Fifteen rings the size of a ten-cent piece, one half yard of No. 2 satin ribbon and one skein of silk floss are the materials required.



M. E. SMITH.

Drop Muffins

THREE eggs, one and one half pints of milk, one small cupful of yeast and one teaspoonful of salt. Stir in enough flour to make a batter thick enough to drop from a spoon (in which manner they are to be baked). Drop into a greased dripping pan, and bake inside the stove in a quick oven. Do not stir them after they have risen before baking.

Snow Balls

CREAM thoroughly one half cupful of butter; add gradually one and one half cupfuls of fine granulated sugar, beating until very light. Add alternately one cupful of tepid water and three cupfuls of

sifted pastry flour with one teaspoonful of vanilla and a pinch of salt, and beat steadily for ten minutes. Lastly add two level teaspoonfuls of baking powder and the stiffly whipped whites of four eggs, and bake in a long dripping pan lined with buttered paper. Baked in a rather hot oven twenty-five minutes will be sufficient. When done and cold cut out in three-inch circles. Boil together in a saucepan one pint of granulated sugar and one cupful of water until the sirup hairs when dropped from the tines of a fork. Let stand for five minutes, then beat. When it begins to cloud add the stiffly whipped whites of two eggs and one teaspoonful of flavoring, and beat until thick. Ice the cakes at once, and while the icing is still warm and soft roll each ball in a saucer of dry coconut.

Egg Plant

TO BAKE egg plant, put it in plenty of water, let simmer until tender, then peel and extract the seeds. Chop it fine, and arrange alternate layers of egg plant, butter, pepper, salt and bread crumbs. Strew finely powdered bread or cracker crumbs with bits of butter over the top, add three tablespoonfuls of milk, and bake in a deep baking dish.

When frying, choose a large egg plant, and parboil to remove any bitter taste. Cut in slices one inch thick, but do not peel them. Season with salt and pepper, and dip each slice into the beaten yolk of egg, then into bread crumbs, and fry in boiling lard or sweet oil. When prepared in this way it tastes very much like soft-shell crabs.

Puffs

TO ONE pint of new milk add one half pound of butter, and when it comes to a boil set it aside to cool. Then add three fourths of a pound of flour and one teaspoonful of salt. Beat four eggs as for cake, separately. Beat in the eggs, and put the batter in greased muffin rings, filling them half full. Bake in a quick oven.



How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

Summer Boarders

EVERY summer we have two boarders for a few weeks—two middle-aged ladies who like to get away from the city on their vacations. They are not very much trouble, pay me well for their board, and every year they pay for and take home some home-made articles of mine. Last year they liked my pear and peach butter well enough to pay me well for some that they took home. After the fruit is prepared and sweetened, put the same in the oven. In this way it needs only occasional stirring. It will cook down and keep just the same as butter, made on the top of the stove, and is made with a great deal less work.

The year before a home-made rug that looked much like a fur rug attracted their attention, and I got much more than its worth. The ordinary burlap, such as comes around furniture, was all I used. Cut in strips one and one half inches wide, ravel from each side until there are only four threads left in the center of the strip, sew them together, and knit on large wooden needles in strips; sew the strips together with threads drawn from the burlap, then knit a strip long enough to go around the outer edge of the rug for border. The burlap can be used as it is or colored any color, as it takes colors as well as wool; but be sure to color it before it is prepared for the rug, for if colored after it is raveled it spoils the effect somewhat.

MRS. H. C. COLLINS, Massachusetts.

Summer Eggs

I HAVE always received a top price for my eggs in town, and I attribute it to the fact that I have always endeavored to give my customers an honest value. In summer, when it is hard to keep eggs fresh, I have always tested my eggs before sale. A simple test of the freshness of eggs is to drop them carefully into a pan of water. If one lies flat upon the bottom it is fresh; if it raises on end, it is stale; if it floats to the surface, it is unqualifiedly bad, and can be thrown away without a doubt. My neighbors were never careful, and I want to say that I always got better prices than they for eggs, and I am still getting them.

MRS. HENRY GOLDBY, Illinois.

Cleaning Hats

I FIGURE that when I do something that saves me money I have made just so much. When my straw hat needs cleaning I use a mixture of sulphur and lemon juice for the purpose. Mix to the consistency of cream, and apply a thin coating, allowing it to dry sufficiently to permit its being brushed off easily.

White cornmeal rubbed on with the bare hands or a cloth will clean felt hats so that they will look like new.

MARGARET SMITH, New Jersey.

Odds and Ends of Ribbons

I SAVE all my scraps of ribbon, and when Christmas time comes around I use them for making sachet bags. They are very simple to make and prove a very acceptable little gift. A neighbor of mine made up a lot of them and put them on sale at a store during the holidays, and she realized quite a neat little sum of money. The



only expense entailed is that for the sachet powder. I always manage to find some cotton about the house to use for filling.

MRS. COLLINS, Kentucky.

The Important Hen

I SUPPOSE I am not unlike many farmer girls who depend upon the busy hen for most of their spending money. The care of the poultry I share with my two sisters, and papa allows us a certain percentage of net profits from the eggs for our spending money. Experienced poultrymen feel that it is almost useless to try to raise broods of chicks in very hot weather, but our experience has been that perfect success may be obtained by setting the hen directly upon the ground.

When a hen wants to sit, let her sit, for Nature so wills. If you do not wish to have chickens, give her porcelain eggs and let her sit for two weeks, shutting her up thereafter for a few days. After this she will be in a better condition and will lay more eggs than she would have done if prevented from sitting.

MISS WELSH, New York.

Helps Worth While

THE colored frock or blouse that has become faded with frequent launderings or from wear in the sun, may be bleached to a clear white by boiling in cream-of-tartar water. The correct quantity is a teaspoonful of cream of tartar to every quart of water.

The smell of peppermint is most obnoxious to mice, and a little oil of peppermint placed about their holes will soon make them look for other quarters. This should be borne in mind by housekeepers who have mice-infested cupboards, etc., which are beyond the jurisdiction of the family cat.

To drive moths away, get some rock sulphur or brimstone from a chemist or oil store, and place small lumps among the things put away, after brushing them well. It will leave no smell or mark of any sort, and no moth will go near the box or drawer where brimstone is placed.

To keep the bread in a nice condition, take a fair-sized potato, wash it, and place in the pan where the bread is kept. Moisture is given off by this vegetable, which prevents the bread from getting dry, and yet there is not sufficient moisture to cause any mildew. The bread pan should be washed out weekly and thoroughly aired. The lid should be kept a little open, so that the air may circulate freely. If these little hints are followed, the bread will always be in nice condition.

The Useful Turpentine

MOTHS will leave if it is sprinkled about.

Turpentine and soap will remove ink stains from linen.

Turpentine will remove wheel grease, pitch and tar stains.

Clean gilt frames with a sponge moistened in turpentine.

A few drops on a woolen cloth will clean tan shoes nicely.

A few drops added to water in which clothes are boiled will whiten linen.

An equal mixture of turpentine and linseed oil will remove white marks from furniture caused by water.

Ivory knife handles that have become yellow can be restored to their former whiteness by rubbing with turpentine.

Carpets can be cleaned and colors restored by going over occasionally with a broom dipped in warm water in which a little turpentine is added.

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Two in one. Polished Tempered Steel Blade. Water-proof Hardwood Handles. Nickel-plated Mountings. Entire length 18 inches. Price 60 cents. With THREE HIGH GRADE KNIVES (Broad, Butcher and Carving) \$1.00. Agents Wanted. New! Write today! Address FRANK WHITE, 46 Cummings Street, Irvington, N. J.

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(Warranted for 10 years)

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A BEAUTIFUL DESIGN

We believe there has been nothing created in the line of silverware heretofore that surpasses this design in real beauty. It requires an expert to tell the difference between these spoons and the regular sterling ware that costs seven dollars and fifty cents for a set of six spoons. This ware is absolutely guaranteed by the manufacturers to wear and give perfect satisfaction under ordinary circumstances for a period of ten years, and any defect within that time will be made good by the manufacturers.

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In this latest pattern, the "Wild Rose," we feel that we have something even more beautiful than any design yet offered at such low prices. It has met with the most enthusiastic praise from expert judges, being pronounced equal to the best sterling in artistic design and the working out of a unitary conception. In it you have a representation of the growing wild rose carried out to the minutest detail, with back design to match the face, and the whole effect is that of the very best sterling silver.

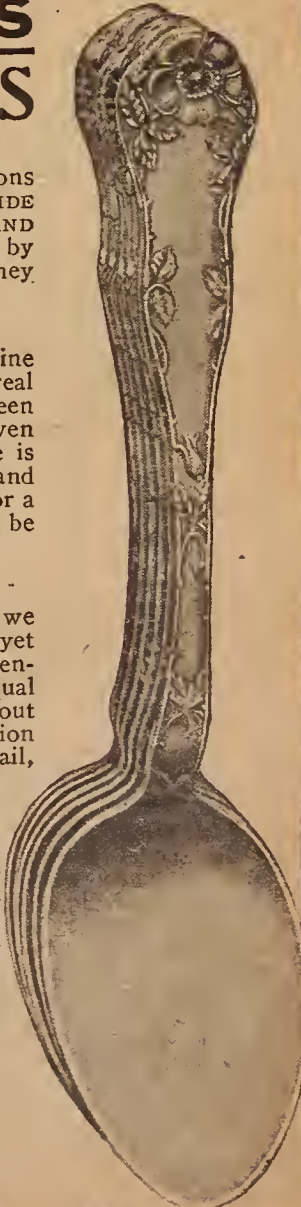
THOUSANDS

have earned these teaspoons by getting their friends to take FARM AND FIRESIDE. It is easy and you can do it in less than a day if you want to. Write today for a book of six coupon-receipts, each of which is good for a year's subscription to FARM AND FIRESIDE. When you have disposed of the six coupons to your friends we will immediately send you the set of silver teaspoons. FARM AND FIRESIDE is the largest, most helpful and best farm paper in the country and the easiest to get subscriptions for. Do not forget to ask for the book of silver coupons.

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FARM AND FIRESIDE, Springfield, Ohio

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New and Practical Summer Fashions

A Page of Helpful Designs for the Woman Who Does Her Own Sewing

MADISON SQUARE PATTERNS

Our magnificently illustrated summer catalogue of Madison Square patterns will be sent free upon request. Order all patterns from Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

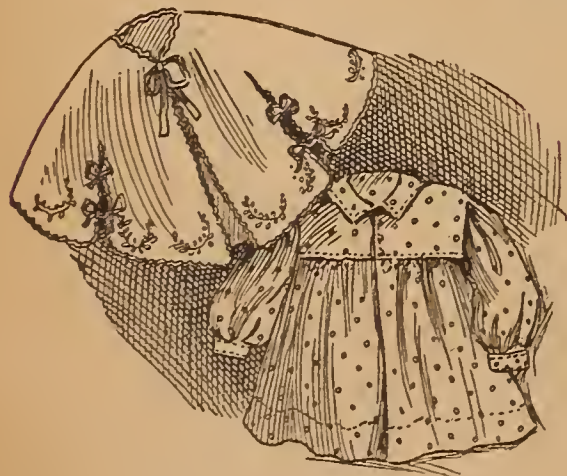
We will give any two of these patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for 30 cents.



No. 887—Misses' Waist With Bib Jumper
Sizes 12, 14 and 16 years.

No. 888—Misses' Five-Gored Skirt
Sizes 12, 14 and 16 years.

THIS jumper dress for a young girl has many possibilities for usefulness. The pattern consists of three garments—the skirt, the waist and the bib jumper. In making up the gown it would be wise to have at least two waists to wear with it, and two or more jumper bibs. The skirt is a very simple-to-make five-gored model fitted with darts at the waist and having an inverted plait at the back. The bottom is finished with a hem and two bias folds.



No. 681—Baby Sacques
Cut for one size only.

No. 953—Woman's Bathing Suit

Pattern cut for 32, 36 and 40 inch bust measures (small, medium and large). Quantity of material required for medium size, or 36 inch bust, eight and one half yards of twenty-two-inch material, or six and one fourth yards of thirty-six-inch material, with one yard of contrasting material for trimming.

No. 954—Child's One-Piece Bathing Suit

Pattern cut for 2, 4 and 6 year sizes. Quantity of material required for medium size, or 4 years, four yards of twenty-two-inch material, or three yards of thirty-six-inch material.

FOR an all-round sensible bathing suit try the model shown on this page. The suit is made with bloomers and waist in one, fastening in the front. The skirt is cut in five gores, and made with a few gathers at the back. The neck of the waist is cut V shape, and finished with a sailor collar and an adjustable shield. In dark blue or black mohair this suit is attractive, especially if the trimming is of plaid or checked mohair in contrasting colors.

Flannel is the best material to use for the child's one-piece bathing suit. This is a comfortable little suit, just the thing to wear when building sand houses or splashing in the water.



No. 347—Sunbonnet
Cut Medium and Large for Women, also Misses' and Children's Sizes.

THE woman who does all her own sewing will find the circular skirt yokes, which she can buy ready made in black and white muslin and in all sizes for 14 cents, most useful in making her short and long petticoats. These yokes are double, and are curved so that they fit over the hips without wrinkling. At the back they fasten with hooks and eyes. The petticoat is sewed in between the two thicknesses of the yoke, and in this way all bands and fulness at the waist are done away with, which is so necessary nowadays, as all fashionable gowns fit smoothly over the hips.



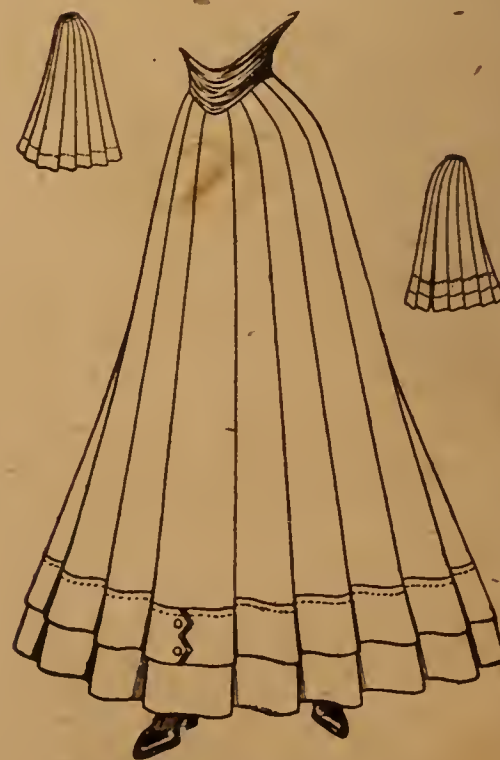
No. 949—Dressing Sacque With Two Different Collars

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material, with five eighths of a yard of all-over lace and five yards of lace for frills.

IT is at this season of the year that an extra dressing sacque added to one's wardrobe comes in most conveniently. The model shown on this page is a simple three-quarter-length jacket, which will look well made of dotted swiss, dimity, lawn or China silk. The pattern provides for two collars—a little turn-down collar, and a broad sailor collar. If the latter is used, it should be made of all-over embroidery or lace.



No. 886—Tucked Tailored Shirt Waist
Sizes 32, 34, 36 and 38 inch bust measures.



No. 892—Plaited Skirt (with or without trimming band)
Sizes 22, 24, 26 and 28 inch waist measures.

Miss Gould's Dressmaking Lesson

It Describes in Detail the Making of This New Smart Shirt Waist

UNTIL this season shirt waists have been divided into two distinct classes—the severely plain or tailored waists, and the fancy lingerie blouses. This summer there are really two kinds of tailored shirt waists—perfectly plain waists, and those which are trimmed a trifle. The foundation is about the same, but the introduction of plaitings, ruffles, and buttons as trimmings for the plainer waists is a noticeable new feature.

Tucked Shirt Waist With Plaited Trimming, No. 948, illustrated on this page, is an example of the new idea in tailored waists. The pattern may be ordered from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. Price ten cents. The plaited trimmings, which are a feature of this waist, may be omitted and the strictly tailored effect used if preferred. One illustration shows just how the shirt waist looks without the trimming and fancy straps—the tucks and edges of collar and cuffs being machine stitched.

The pattern envelope contains ten pieces. The front is lettered (V), back (T), neckband (Y), collar (L), collarband (F), strap (I), belt (X), sleeve (K), armband (E) and cuff (J). These letters are perforated through each piece of the pattern and make it an easy matter for the amateur dressmaker to recognize the different parts of the pattern. It does away entirely with mistaking one part of the pattern for another, and is especially helpful in a design of this kind, where there are so many small pieces which look somewhat alike. It is for this reason that the Madison Square Patterns are so well liked by the woman who does her own sewing. They combine simplicity with individuality and smartness of style.

To begin the work of making this shirt waist, first smooth the pieces of the pattern out carefully and pin them on the material. Place the pieces that have edges marked by triple crosses on a lengthwise fold. Place the other parts of pattern with the line of large round

Write for our new summer catalogue. It will tell you all about the very newest fashions. Sent free on request. The catalogue is profusely illustrated, and displays fashions for every possible occasion for little folks and for grown-ups.



No. 948—Tucked Shirt Waist With Plaited Trimming

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with three yards of plaiting for trimming. The price of this pattern is ten cents. Send order, being careful to give number and bust measure required, to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

three eighths of an inch in from the edge of the hem. Form the plaits, front and back, by bringing the corresponding lines of triangle perforations together. Stitch the plaits and press flat.

Form the tucks in the fronts by creasing on lines of triangle perforations and stitch three eighths of an inch in from the edge of each crease. Include the loose edge of the hem in the tuck which is to form the box plait on the right front.

Finish the strap, and arrange on the waist, bringing the lower edges to line of small round perforations below the cluster of tucks. Fasten the pointed ends with buttons.

Gather the shirt waist at waistline between double square perforations. Arrange the belt on the under side along line of square perforations. Match centers of belt and waist, back and front, and bring large round perforations in belt to the under-arm seams. Baste the belt to position and then try on the waist.

For some figures it will be necessary to change the fulness at the waist and draw it closer to the center, back and front. Slender forms usually require fulness under the arms; where this shirt waist is plain. When this is the case, gather all along the waistline and distribute the material in a manner most becoming to the individual form.

One illustration shows the waist in this state of completion, before the shoulder seams are put together.

Continuing the work, join the neckband to neck as notched. Lap the fronts, bringing the edge of the left front to center line of large round perforations on right side, and fasten with buttons and buttonholes. Join the collar to the collarband as notched. Join the

collarband to neck of waist by notch, if you so desire. Most of these collars are joined to the waist by means of collar buttons passed through buttonholes worked in the neckband and collarband. Lap the front ends of the collarband, matching the center lines of large round perforations, and fasten in front.

Gather the sleeve at upper and lower edges between double crosses. Join the

armband to lower edge of sleeve as notched. Finish the cuff, and join to armband as notched. Arrange the sleeve in the arms-eye, placing the front seam at notch in front of waist and bring the top notch in sleeve to shoulder seam. Pin securely at these two points. Pin the plain part of the sleeve into the arms-eye smoothly, holding the sleeve toward you. Draw the gathers up to fit the remaining space. Distribute the fulness evenly and pin to position. Use several pins in adjusting the fulness in the sleeve before basting. If a plainer sleeve is desired, the cuff may be omitted and only the straight armband used.

Three-eighths-of-an-inch seam is allowed on all edges of this pattern, except at the shoulder and under arm, where one-inch seam is allowed, designated by lines of small round perforations. Most of the fitting of a shirt waist is done at the shoulders and under the arms, and this additional seam is allowed as a "safety" outlet.

The plaited trimmings on this waist afford an opportunity of introducing a pleasing touch of color to the white lawn, swiss or batiste waist. They are frequently made of the same fabric as the waist and edged with half-inch bias bands of blue, pink or green. Then, too, buttonholes may be worked in both sides of the waist, and hand-painted porcelain buttons used in place of ordinary pearl ones. These are delicately colored to match the bands on the plaiting.

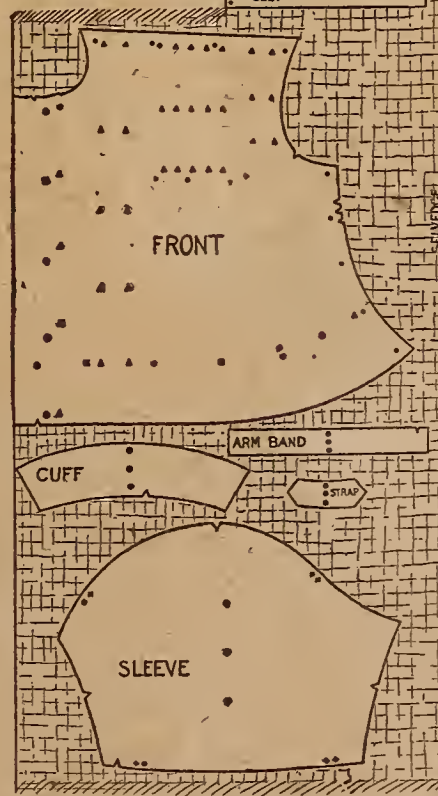
Shirt waists of fine-linen in the natural color have plaitings of wash silk in bright red, lavender and even gay plaid, which is usually cut on the bias for this purpose.

The woman who embroiders well and has plenty of time at her disposal uses narrow ruffles in place of the plaited trimmings, and scallops the edges of the ruffles, working them in mercerized cotton that has a satin luster. Here, too, the contrasting touch of color may be used, or a different shade of the same tone.

The new shirt-waist sleeves are not nearly so full as those worn last summer. Some are the regulation shirt sleeves with few gathers on the shoulders and the straight band cuff. The three-quarter sleeves are tucked or plaited as far as the elbow, and form puffs above. Elbow-puff sleeves have narrow armbands and flaring cuffs similar to the ones shown in this shirt waist.

For lingerie blouses there are the shortest, tiniest puffs imaginable with broad lace armbands not unlike fitted cuffs, having scant lace frills on the edges.

Shirt-waist sets, consisting of embroidered white linen collars and belts, find a ready sale in the shops, and may be duplicated at a slight cost by the clever needlewoman. The edges are scalloped and embroidered.



How the Pieces of the Pattern Are Placed on Material Twenty-Seven Inches Wide

You Can Have This Silk Fan



It will not cost you a cent, either, and it is without doubt one of the handsomest gifts we have ever offered the readers of FARM AND FIRESIDE. Silk fans are mighty fine things to have, because they not only last for years, but they are perfectly exquisite, especially when hand painted like this fan.

Description:—This white silk fan is beautifully decorated with small silver spangles and hand-painted designs. It is edged on top with delicate lace and the base of the fan is trimmed with purling braid. The fan is mounted on decorated white enameled sticks eight inches long. This fan is

Really Beautiful

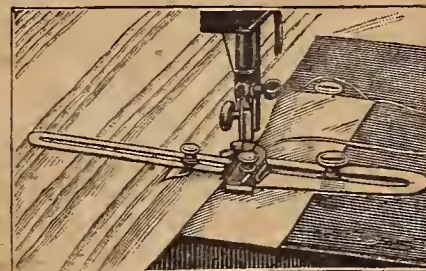
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have been sold at \$1.00 each throughout the country. We could not possibly offer it for four subscriptions if we did not buy them in very large quantities. We believe the Magic Tucker is one of the most wonderful devices ever invented for use in the home, and for this reason we have made special arrangements with the manufacturers whereby we can offer it to readers of FARM AND FIRESIDE without a cent of cost to them.

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Only four subscriptions to FARM AND FIRESIDE at twenty-five cents each, will bring this Magic Tucker right to your door. Your own subscription or renewal may count as one, and you can easily get three of your friends to take FARM AND FIRESIDE. Just think, a \$1.00 Magic Tucker and four 25 cent subscriptions all for only \$1.00—just one half the regular price. Isn't that fair enough? These tuckers will go very fast, so don't delay. Send all orders to

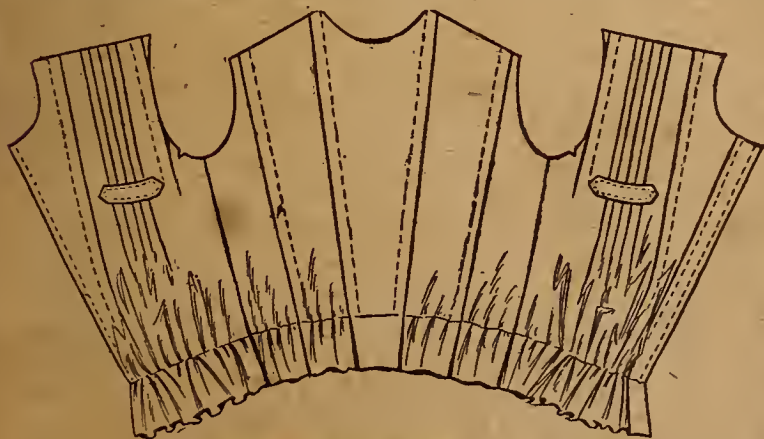
FARM AND FIRESIDE
Springfield Ohio



Showing the Shirt Waist Strictly Tailor Made, Without Trimmings

perforations in each lengthwise of the goods.

One illustration shows the most economical way of placing the pieces of the pattern on material twenty-seven inches wide. The material is folded and the back, collar, collarband, neckband and belt are cut with the material folded. In cutting out the other parts of the pattern, open the goods out flat and pin two widths together before placing the pattern pieces on the material. Mark



The Waist Before the Shoulder Seams Are Put Together

each notch and perforation carefully before removing the pattern.

The right side of the shirt waist is cut like the pattern. There is no box plait on the left front, so it must be cut off by notches and a one-inch hem turned on the front edge.

Join the pieces of the waist by corresponding notches. Turn a hem on the edge of right front by notches and stitch

Billy Bantum

BY HILDA RICHMOND

"MARK! Emma! This chicken of yours is scratching in my garden again," called Mrs. Rockford. "He has dug out nearly all my tulips."

Mark and Emma ran as fast as they could, and reached the next yard just in time to see Billy Bantum dodge a big stone. The tulips were scattered over the ground, and one of them had a hole in the side, where Billy had tasted it to see if it was good to eat.

"Poor Billy!" said Emma, stroking his bright feathers, while Mark looked very cross at Mrs. Rockford. "I'll take you right home."

"Yes, and I'll get you some nice corn," said Mark, shutting the gate with a bang. "I think Mrs. Rockford is as mean as she can be."

Uncle Joe had given Billy Bantum to the children a month before, and ever since the saucy little fellow had been shut in the tiny back yard he had been in trouble. He would creep through holes in the fence to dig and scratch in soft flower beds, he would wake people early in the morning with his crowing, he would eat the pies and cakes Sarah set at the back door to cool, and in every other way show that he had been spoiled when he was a chick by being a pet.

"Take that nasty chicken right off my clean porch!" said Sarah, when Mark gave him some bread and milk in a little dish. "He'll have it all over the floor in two minutes. I don't see how he can eat anything, for he just stole all my potatoes I was saving for the cat."

"Nobody wants you, dear," said Emma, shedding a few tears. "They all say you are bad, but we love you."

"Now, Billy, do try to be a good chicken while we go for our walk," said Mark, "I'll leave your feed dish full of corn, and a nice drink for you, so try to be content."

But when they came home Mrs. Ford's flower bed had been scratched up by naughty Billy, and she was very angry about it. "You children will have to sell that chicken," she said, "or I will have him killed."

But that very day a letter came from the children's grandma asking them to spend the whole summer with her. "We'll take Billy Bantum with us!" cried the children. "He won't have to stay in a little bit of a coop out on the farm."

So Billy went to the farm in a nice large basket, and the first thing he did was to get into the big strawberry bed and eat all the berries he could find. What he could not eat he picked, and the bed was a sorry-looking thing when the children found him.

"You are a bad, wicked Billy!" said Emma. "Grandma gave you such a nice breakfast, and then you ate up her berries. You will have to be shut up in a coop if you can't behave."

All summer Billy got into mischief, and just before they started home some one stole him. He never would stay at home, so some one must have picked him up along the road and carried him off.

"Billy Bantum is stolen, Emma," said Mark, when a man told him chicken thieves had been in the neighborhood. "I wish it had happened long ago, for I'm tired of running after him."

"I'm glad he's gone," said Emma. "Why! Look there, Mark!" And there on the fence, balancing himself for a good crowd, stood Billy Bantum. He had slipped out of the box and scurried home from the thieves as fast as his legs would carry him, and was ready for another bit of mischief.

Pickups From History

JOAN OF ARC

THIS historic woman, known also as *Jaune d'Arc* and the "*Maid of Orleans*," was one of the most celebrated heroines of France. She was born of humble and honest parents during the year 1412, in the village of Domremy, on the borders of Lorraine. She was the fifth child, and owing to the indigence of her father received no instruction, but was accustomed to out-of-door duties, such as the tending of sheep and the rid-



ing of horses to and from the watering places. She was taught, like other young women of her station, to spin and sew. By her modesty, greater simplicity, industry and piety she was distinguished from the other girls of her acquaintance. When about thirteen years of age she believed that she saw a flash of light and heard an unearthly voice, which enjoined her to be modest and to be diligent in her religious duties. The impression made upon her excitable mind by the national distresses of the time soon gave a new character to the revelation which she supposed herself to receive, and when fifteen years old she imagined that she was called to go and fight for the dauphin. Her

kindled to the utmost, and Joan became the dread of the previously triumphant English. She conducted the dauphin to Rheims, where he was crowned, July 17, 1429, and Joan, with many tears, saluted him as king. She now wished to return home, deeming her mission accomplished, but Charles importuned her to remain with his army, to which she consented.

On one occasion the French gave way, and Joan was left nearly alone. Compelled at length to join the deserters, she displayed on high the sacred banner, while with her voice, her countenance and her gestures she animated her recreant followers, led them back to the



Photo by Will G. Helwig

WE ARE GOING TO GRANDMA'S

story was at first rejected as that of an insane person. All the while she was imbibing the spirit of the times, listened to the daily and varying tale, becoming interested in political affairs. Having made her mission known to the governor, and he not being disposed to hear her at first, she was not daunted, but renewed her solicitations daily, and at each visit her importunity was increased. He at length adopted the scheme of Joan, gave her some attendants, and accompanied her to the French court.

Not the marvelous alone, but the miraculous also, is attached to the history of this extraordinary woman. An assembly of grave divines examined Joan's mission, and pronounced it to be undoubted; and the parliament, collected at Poitiers, confirmed the decisions of the theologians. Joan was dressed in a complete male suit of armor, mounted on a prancing charger, and shown to the admiring people. It was now determined to try her force against the enemy. With a sword and a white banner she put herself at the head of the French troops, whom her example and the notion of her heavenly mission inspired with new enthusiasm. On April 29, 1429, she threw herself, with supplies of provisions, into Orleans, then closely besieged by the English, and from the fourth to the eighth of May made successful sallies upon the English, which resulted in their being compelled to raise the siege. After this important victory the national ardor of the French was re-

charge, turned the fortune of the field, and overpowered the enemy. On another occasion, when wounded in the neck by an arrow, she retired for a moment, and exclaimed, as with her own hand she extracted the weapon, "It is glory, and not blood, which flows from this wound." The wound having been dressed quickly, she returned to head the assailants and to plant her victorious standard on the enemy's ramparts.

The English, supported by the Duke of Burgundy, laid siege to the town of Compiègne, into which Joan threw herself. The garrison, who, with her assistance, believed themselves invincible, received her with transports of joy. Here, however, good fortune forsook her, and after performing prodigies of valor and losing her horse under her, she was compelled to surrender to the enemy. The Burgundians, into whose hands she had fallen, sold her to the English for ten thousand livres. It is believed the French officers, jealous of the glory of the maid, had designedly exposed her to this fatal catastrophe. Such is human gratitude and the fate of merit, and such the recompense awarded to the benefactors of their species. She was tried for sorcery and magic, and sentenced to perpetual imprisonment; and to be fed, during life, on bread and water. But the barbarous vengeance of Joan's enemies was not yet satisfied. For almost four months she was continually harassed by questions and persecutions—the most ridiculous and

absurd; she was asked whether at the coronation of Charles she had not displayed a standard consecrated by magical incantation. "Her trust," she replied, "was in the image of the Almighty impressed on the banner, and that she, who had shared the danger of the field, was entitled to partake of the glory at Rheims." During these trying examinations she betrayed no weakness, nor gave to her persecutors any advantage; she disgraced not the heroism she had displayed on the field. At length she was excommunicated, and all pardon, all mercy, refused her. Words which fell from her when subjected to great indignities, and her resumption of male attire when all articles of female dress were carefully removed from her, were made grounds of concluding that she had relapsed, and she was again brought to the stake on May 30, 1431, and burned. On the right of the scaffold, on which she was exposed to the savage fury of the people, were stationed the clergy, and on the left the secular officers. In this situation she was, with solemn mockery, interrogated on the principles of her faith, principles which appeared to differ in no respect from those of her merciless persecutors. She was at the conclusion informed "that the meek and merciful ministers of the gospel had, for the execution of their sentence, handed her over to the secular powers."

"Dieu soit bene!—Blessed be God!" exclaimed the sufferer, as she placed herself on the pile. Her body was quickly consumed and her ashes scattered to the winds. Thus perished the heroic woman, to whom "the more liberal and generous superstitions of the ancients would have erected altars."

In 1454 a revision of the sentence of Joan was demanded by her family, and the memory of Joan was fully cleared of every imputation which could tend to its dishonor. Monuments were erected to her memory and honor in Orleans, at Rouen, and various parts of France. The character of our subject was spotless. Her hand had never shed blood. The gentle dignity of her bearing impressed all who knew her, and restrained the brutality of her soldiers.

Assistant Farmers

FROM THE SUNBEAM

ONIONS, turnips, beets, tomatoes, peas, celery—my! I guess I'll have as grown-up a garden as grandfather's is!" exclaimed Willie happily, as he named over the different seeds he was going to plant as soon as he got the "corner lot" ready for the beds.

Suddenly he stopped digging and began striking his hoe with all his strength into the soft soil.

"What's the matter, Willie?" called grandfather from the onion bed. "What have you found?"

"One, two, ten, twenty—why, hundreds of them, grandfather, and they'll eat every seed I plant!" exclaimed Willie excitedly, as he began to cut the soil with his hoe more vigorously than ever.

"Hundreds of what?" and grandfather raised himself from his knees.

"Worms, grandfather; and I'll not have a single thing come up."

The little fellow's face looked a very picture of despair, as visions of early vegetables—a surprise for father—that he had planned to take back to his city home suddenly disappeared.

"Why, I never call them worms," grandfather said. "But they are worms—angleworms, grandfather."

"Yes, but I never call them so," laughed grandfather at the serious little face. "I call them farmers—my assistant farmers—and the more work I have for them the better I like it."

"Farmers! Worms farmers—and work? Why, grandfather, all they do is to squirm and wiggle."

"Certainly, that's their work. Don't you see, they angle their way through the soil, and so make it light and loose. They are regular little ploughs, fertilizing the soil, too, as they plough, so to speak."

"But—but, grandfather, don't they eat the seeds while they are resting?"

"No, indeed; my little assistants don't destroy, they only aid in my crop raising."

"I didn't know I was going to have some hired help this summer when you gave me my garden," laughed Willie.

"You are not going to," chuckled grandfather, as he returned to his onion bed; "they work for nothing!"



WIT and HUMOR

Plain, Quite Plain

"I HAVE often wondered," remarked Greenleigh, dropping a penny in the slot, "where the profit on these machines—"

Here he grasped the handle.

"Where the profit on these machines—"

Here he shook the machine.

"I have often wondered, I say where the profit—"

Here he shook the machine again.

"Where the profit comes in. Hang the thing! It seems to be clogged this time. Nothing happens!"

"Well," said Brooks, "do you begin to see where the profit comes in?"



UNUSUALLY FERTILE SOIL

NEPHEW—"Do they raise very large crops of apples out your way, uncle?"

UNCLE—"Well, I should say they do. Apples grow as big as cannon balls and in clusters big as hay stacks."

NEPHEW—"I should think they would break the limbs down."

UNCLE—"They would if we didn't plant timothy in the orchards. It grows up in stalks as big as bean poles and supports the limbs."

For Him to Decide

"Well, well," said the absent-minded professor, as he stood knee deep in the bath tub, "what did I get in here for?"

Birds of a Feather

THE LADY—"You cruel boy to kill that poor little bird. What are you going to do with it?"

Boy—"Goin' to trim a 'at like yours with it, lady."

In Confidence

SHE—"And when we are married you will always confide in me, won't you? Cissie's husband tells her everything that happens."

HE—"Yes. And I've heard he even tells her lots of things that never happen at all."

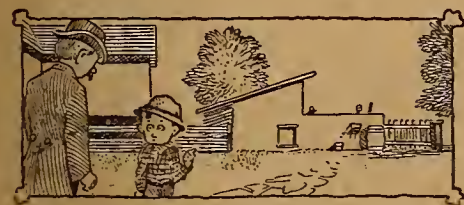
Enough

"Do you consider a chauffeur worth two hundred dollars a month?"

"Well, the last one I had ran away with my wife, and you knew my wife, old man."—Life.

VISITOR—"Do they treat you well here?"

PRISONER—"Generally they does, only they hurts me feelin's by their lack of confidence. They won't let me have a latch key."



DESCRIBED

CALLER—"Is your pap home, young man?"

Boy—"Yes, sir. He's out there in the hog pen—you can easily tell him—he has a broad-rimmed straw hat on."

The Inexorable Law

"Sir," we said timidly to the coal man, who is idly toying with the massive jeweled seal on his heavy gold watch guard, "pray tell us why coal is so much cheaper in April than it is in October."

"It is the law of demand and supply," he responded.

"Would you mind explaining what you mean by those familiar words?"

"Not at all. We demand the money and you supply it."—Judge.

Nerve Lacking

SURLY STRONG—"Gimme a nickel, missus?"

MISSUS—"I should think a big, strong man like you would be ashamed to ask for money."

SURLY STRONG—"I am, missus, but I ain't got der nerve to take it without askin'."—Philadelphia Record.

She Couldn't Refuse

"Would you mind if I went into the smoking car, dear?" asked the bridegroom in a tender voice.

"What! To smoke sweetheart?" questioned the bride.

"Oh, dear, no," replied the young husband; "I want to experience the agony of being away from you so that the joy of my return will be all the more intensified."—Ladies' Home Journal.

SIMMONS—"Johnson wants to borrow some money off me. Do you know anything about him?"

M'COY—"I know him as well as I do you. I wouldn't lend him a penny."

A Well-Paying Business

The following advertisement appeared in a paper of a small town in Colorado: FOR SALE—An old-established, well-paying undertaker's establishment. The city is in a very unhealthy location, where the mortality is very great. There is only one doctor in the whole town. The deaths from fever alone pay the expenses, and the rest is clear profit. There is no competition.—Life.

Too Low

A well-known sportsman had become very tired of listening to a series of shooting yarns that some friends had been spinning. At last he launched his first and only story that night.

"I went into a field one day to have a shot," he said. "The only game in sight was an immense flock of blackbirds. I should say there were ten thousand in the flock. I fired both barrels, and how many do you think I killed?"

Different guesses were made, ranging from twenty to one hundred birds.

"Not one," said the stranger; "but I went out to look for results, and picked up thirty bushels of legs. I had shot a little too low."—The Tattler.

A Thin Cat

The skeleton of a cat walked into a butcher shop. Ryan, seeing her, bawled out, "Mickey, didn't Oi tell ye a month ago to fade that cat wid a pound of mate a day until ye had her fat?"

"You did! An' Oi'm just after fadin' her wid a pound."

"Has that cat ate a pound this mornin'?"

"Yes, sir."

"Sure, Oi think it's a lie ye're tellin'. Bring me them scales. Now bring me that cat."

The cat turned the scale at exactly one pound.

"There, didn't Oi tell ye thot she'd eaten a pound of mate this mornin'?"

"All right, me boy; there's the pound of mate, but where's the cat?"

Congratulates Himself

"Before engaging rooms in your house," said the bachelor, "I want to know if there are any families with crying babies staying here."

"I'm afraid there is," replied the landlady; "but we—"

"Well, I was just going to say," continued the other, "that if there are I want you to put me in the room next to theirs. I want to wake up in the night and hear their trouble, so that I can congratulate myself again that I'm not married."

Incompetence

"Do you know anything about flirting?"

"Well, I thought I did when I tried it, but she insisted on marrying me!"

Perfectly Natural

"Did Perkins die a natural death?"

"Oh, yes. But I can't remember now whether he was murdered, killed in a railroad accident, or hit by an automobile."—Life.

"The telephone is so annoying sometimes."

"Yes; it's like matrimony. One doesn't always get the party one wants."

NELL—"She has an automobile tongue."

BELLE—"What do you mean?"

NELL—"Oh, she's always running other people down."

"Johnny, is your sister in?"

"Yes, sir; she's in an old wrapper and her curl papers. You'll have to wait about an hour, Mr. Spoonall."

The Other Fellow's Humor

The feller thet's allus tellin' what a wonderful woman his wife is generally haz t' smoke in th' kitchen.—Abe Martin.

"I suppose," she said, with fine sarcasm, "you were sitting up with a friend?"

"No, m'dear," replied he truthfully, "I was settin' 'em up with a friend."—Houston Post.

DAUGHTER—"But he is so full of absurd ideals."

MOTHER—"Never mind that, dear, your father was just the same before I married him."—Town and Country.

MAGISTRATE—"What! Do you mean to say your husband struck you, and he that physical wreck?"

MRS. MALONEY—"Yes, yer honor; but he's only been a physical wreck since he struck me."—Independent.

HUSBAND—"I wish I had some of those good, old-fashioned biscuits like mother used to make for me."

WIFE—"And I wish I had some of those



TRUE, QUITE TRUE

LADY—"Why, Johnny, are you just getting home? Your mother has been looking for you all afternoon. Just think how worried she must be."

JOHNNY—"Oh, she's near the end of her worrying, and I must begin mine now."

nice, new-fashioned clothes like father used to buy for me."—Chicago News.

"My wife sent a plugged quarter for a recipe for reducing weight."

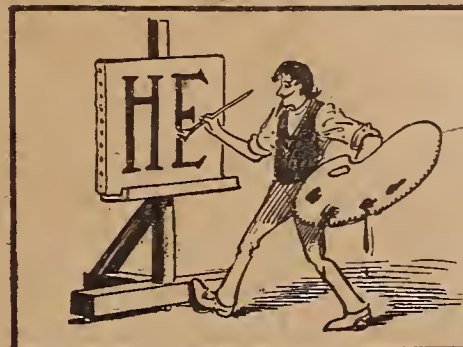
"Did she get the required information?"

"Yes; they returned the quarter and told her to squeeze herself through the hole."—New York Telegram.

A friend of the family had been summoned to testify, much against his will, as to certain domestic disturbances in a Chicago household.



What Different Parts of a "Beef" Do the Six Pictures Below Suggest?



ANSWERS TO PUZZLES IN THE JULY 10TH ISSUE

Islands of the Western Hemisphere—Cornwallis, Iceland, Jamaica, Wellington Island, Cuba, Chatham Island, San Domingo, Charade No. 1—Father—fat—her. Charade No. 2—Canton—Can—ton.

The Grange

BY MRS. MARY E. LEE

TAXATION MATTERS

ALL questions pertaining to taxation are of national interest. While there are local difficulties, the experiences of one state are of vital importance in working out an equitable system of taxation for another. Twelve states are now working on specific problems, while all are seeking a yet better system than they now have. With every improvement comes a lessening of the burdens of those least able to bear them. All experiments have not been progressive, but the same body that made the law can unmake it. Without the experiment, even as good systems as now exist could not have been devised.

Moreover, what may be fair and just for one section of a state might work hardship to another. This is true also as to the conditions from year to year, which vary more than sections of a state. Legislation, therefore, should not be injected into the Constitution, but should be left to the lawmaking body of the state. In this way only can varying conditions be dealt with intelligently. What was good for the past generation may be economic suicide for the present.

Tax payers should provide against this evil. Also against a uniform system based on the ad-valorem, or true-value, theory. The only benefit which such a system has produced is that of experience, which demonstrates that the theory is wrong and the practice vicious. States which were burdened by this system have thrown it off or are in process of doing so. It is, in effect, a land tax levied on the least productive land, while that land which has profited most by special privileges escapes all save an infinitesimal share of taxes.

The system provides for and makes mandatory a plan of double taxation, a plan eminently unwise, unjust and impossible of enforcement. Instead of land being placed at its true value (ad valorem), it has been placed at less than the true value, while personal property, if returned at all and in accord with the true-value, or ad-valorem, theory, must be given in at par value. The result has been that not only high-priced, but low-priced land has sought as low a valuation as possible. The hardship has fallen hardest on the least productive acre. Location and kind of business transacted on land measure its value. An acre of the same fertility may be worth \$10, \$100, \$100,000 or may be worth even \$10,000,000, according to its location.

The higher-priced acres get on duplicate at as low a valuation as possible on the plea that that class of property which gives it value, the intangible, must be placed on duplicate at par value. When the intangible property is sought, but little can be found, and the claim is that the thing—the land upon which the railway is built or the manufacturing or business blocks stand—has been taxed once, and to tax the representative of that thing and the thing itself is double taxation. The profits may be enormous, owing to special privileges obtained through location, franchises and kind of investments. The cost of protection and amount needed is correspondingly large. Somebody has to pay it.

The low-priced land, while getting on at a low valuation, makes small profits, and these often must be invested in needed improvements. The improvements may not enhance the selling price of the land, yet are necessary to make a living from the land. If the profits are not invested in improvements—that is, if the landowner has so far improved his land as to make it yield all the income it is capable of yielding in that locality—he may invest his surplus in other ways. But his business is generally known by his neighbors and the amounts are not large enough to seek investment in non-taxable securities or those securities that can escape into other states. After he learns the trick he never pays on his personalty again.

Usually the very honest man, the inexperienced, the widows and orphans and the estates in process of settlement are caught in the meshes. As soon as a man has money, notes or credits, and realizes that under the law he must return them at the ad valorem or true value (and he knows the exact value), while his land goes on at less than the true value, he begins to squirm under the screw of the uniform rate. He then realizes, probably for the first time, that his land, even at the low valuation which he prided himself on getting, has been compelled, because of the iron-clad rule which said all property shall be taxed at its true value at a uniform rate to bear the tax

which the more valuable land has been able to evade.

The injustice of putting an acre of land worth \$100 on duplicate at \$50; and a note worth \$100 at \$100, is apparent to all. Yet the ad-valorem system with uniform rate brings exactly this condition. The only class that can profit by this system is that with large holdings in intangible property. The class which suffers the most is that with small holdings of tangible property: farmers, merchants, small home owners, etc.

Why has the uniform rate, which has been pronounced vicious, unjust, economic suicide, in every state having it, been retained so long? First, Because of the inertia of the people, who "would rather bear the ills they know" than exercise their wits enough to escape them through a more just system. Second, Because those whose property is largely intangible become beneficiaries of the state by the system. They cater to the prejudice against change and proclaim through press and other ways the sacredness of the constitution. Third, Because of indifference in and ignorance concerning true economic laws.

THE OBSERVATORY

Michigan State Grange has set aside September 30th as Memory Day, when all the Granges are to repair to their respective cemeteries and spend the day in beautifying the homes of the beloved dead. This is a plan other states can follow with profit.

Fairfield County, Ohio, Pomona at its last meeting instructed the local Granges to co-operate in cleaning up the roadways, improving the roads, beautifying the cemeteries, giving one day each in spring and fall; to inquire into the common schools, ascertaining how much money was spent, how expended, enrollment and average attendance, wage of teachers, number each of male and female teachers, condition of grounds and buildings, equipment and other matters affecting the interests of the schools, to the end that a better system might be devised; also to provide for holding a joint session with the Teachers' Institute for the discussion of school-administration problems. These are all excellent and commendable and tend to make the Order a factor of local importance.

The average wage for teachers of the United States, including city superintendents and all other teachers, was, in 1904, \$368 a year. The average wage of municipal street laborers on streets and sewers was \$483. And yet people boast of our magnificent donations to schools.

A few in each community are really interested in schools, and show it, but the great majority are willing to let well enough alone. Whenever people want better schools they will get them. It is an exceptional county in this country of ours where enough has not been misspent to have doubled the local expenditures in schools. It's about time that the few who really are interested take action to bring about better conditions.

National Master Bachelder will visit many states this season, as he has before, giving but one, or at most two, days to a state. These meetings are recognized as splendid opportunities for extending Grange doctrine.

"The best crop is the crop of children; the best products of the farm are the men and women raised thereon, and the most instructive and practical treatises on farming, necessary though they may be, are no more necessary than the books which teach us our duty, to our neighbor, and above all to the neighbor in our own household."—President Roosevelt.

The following far-reaching section is engrafted in the new constitution of Oklahoma: "The legislature shall require all money collected by taxation or by fines and public charges of every kind to be accounted for by a system of public accounts, state and local, which shall be prescribed and audited by authority of the state."

It was written by Allen R. Foote. It should be in the constitution of every state in the Union. A system of book-keeping inspection and publicity would do more toward preventing fraud and unearthing graft than any other one thing.

Take it up in the Grange, and send your delegate to the next State Grange with instructions to see that the State Grange makes an earnest effort to get a similar plank introduced into the constitution. The wording could not be improved upon, and Oklahoma's section could be copied.

If you will get two of your neighbors who don't take Farm and Fireside regularly to subscribe at twenty-five cents a year, and you send us the fifty cents, we will send Farm and Fireside to each a full year and give you a full year without a cent of cost. Three yearly subscriptions in all. That's a good fair offer. Let us hear from you.

FARM AND FIRESIDE

SPRINGFIELD, OHIO

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THE QUESTION OF PROFITS

"Does it pay to keep poultry?" Every few days a friend or acquaintance stops me on the street or in my work to ask this old question. There seems to be people who desire the information.

The answer must be somewhat like that given by some wit to the question "How far is it to the next village?" The person addressed simply said "Go!" and repeated that reply on repetition of the question. When the questioner, offended at the discourteous answer, did go, the other called him back and said, "At that gait you will reach the next village in about an hour." Without knowing your gait—your method of procedure, your management—who could venture to tell whether you will carry the undertaking of keeping poultry (or of growing onions, or celery, or small fruits, or of any other enterprise of this kind) to success or to failure?

There are those, even among agricultural experts, who claim they can see no money in poultry raising except when carried on as a side issue, under the especially favorable circumstances of having free range for the fowls over meadows and in orchards, and a full supply of waste grains and other waste or unmerchantable food stuffs. There are others who report good profits from a flock or flocks of fowls judiciously managed even when all the food materials have to be purchased at ordinary retail prices.

My own experience is that I can easily be the loser as a poultry keeper. All I have to do is to keep my stock over from year to year, and feed a lot of old hens on foods purchased at high retail prices. It is a sure way to failure, even when fresh eggs sell at from twenty to forty cents a dozen, and hens at fifteen cents a pound live weight. But even at present high food prices we have a fair margin of profit when we keep pullets of the right breeds, dispose of every fowl before it is twenty-eight months old, so that the bulk of our stock consists of hens in the very best producing periods of their lives, and take proper care of them.

Just now I happen to have on hand a lot of old hens, Black Langshans, mostly two years and over. I just examined every one of them, and find them very fat, weighing six pounds and over apiece, apparently in the very best of health, but (although I have been feeding egg-producing food right along) they are laying but few eggs. Such hens are profitable only for the block; they are neither good layers, nor are they good brooders and mothers, because they are too heavy and clumsy. The pullets pay for their keep, and a good margin of profit. As for the older stock, the sooner they are killed and sold, the less loss.

MODERN WAYS

What progress we are making in all lines of farming, and how we rapidly change our ways and methods so as to secure greater results with less labor and expense, show plainly even in the poultry business. Perhaps the old hen as mother is not going entirely out of commission. But where, with her help, we hatched a hundred chicks twenty-five years ago, we now get a thousand out of an incubator just as easily and with as much certainty.

Possibly history is only going to repeat itself. Thousands of years ago the Egyptians made use of immense hatching ovens, where thirty thousand or more eggs were incubated, and the chicks for a whole neighborhood hatched out at one time, in a kind of partnership hatchery. We shall soon have either co-operative or professional hatcheries in most neighborhoods, so that the individual poultry keeper will not have to spend his time and efforts on sitting hens. You carry your eggs to the hatchery, and in due time get your chicks. I have just had a lot of Silver-Spangled Hamburg chicks hatched in this manner, for a comparatively small compensation. Of course, we have to put up a brooder or give the newly hatched chicks to some of the hens that have been broody for a while. I use both methods, and have arranged a part of my little greenhouse, where the hot-water pipes give just the right heat, for a brooder.

Another modern change is the trade in newly hatched chicks. Up to a year or two ago we had to purchase every fall or every other fall one or more pure-bred cockerels, so as to provide new blood and guard against inbreeding. Such birds usually cost us from two to five dollars apiece. Now we buy fifty or a hundred pure-bred, newly hatched chicks from some reliable breeder who makes a business of selling such stock at about ten to fifteen dollars a hundred. Thus for the price of two or three cockerels we obtain fifty or more birds, which, if we take proper care of them, give us by next fall a few dozen pullets, and cockerels enough for a choice of the finest among

quite a number for our own keeping, and some to sell to neighbors or others to improve their flocks. T. G.

CALCIUM CARBIDE.

I have read an article in FARM AND FIRESIDE referring to calcium carbide residue and its uses. I have known of it being spread on lawns and meadows with a manure spreader, at the rate of ten loads to the acre, with excellent results. I am sure it would benefit fruit and other trees, especially on clay soils.

It will also make good mortar for brick and stone walls, for which I have known of its being used. Calcium carbide is composed of sixty per cent of lime and forty per cent of coke, which is fused in an electric oven and run together. When cooled it is broken into the different sizes for which it is used. It will not burn when dry, but when it comes in contact with water it at once commences to make gas, known as acetylene, and continues until all of the gas is consumed.

The acetylene system of lighting is the safest of any known at the present time, as well as the cheapest, excepting only natural gas. If our rural communities only knew of this excellent mode of lighting it would soon come into general use.

It gives a very white and steady light, next to sunlight. There are now acetylene generators made for acetylene lighting that can easily and cheaply be put into farm and other residences, and are easily operated. There is no danger of being asphyxiated by acetylene.

A. W. STILES.

THE RIGHT AND THE WRONG WAY IN SHINGLING

With a little thought and practise any one can be his own carpenter. Let us take shingling, for instance. I nailed on about three thousand on Saturday. I put two nails through every shingle, and only used three thousand nails. A glance at Fig. 1 will convince you of the fact. This is the proper way to shingle. It saves time and nails and makes a better roof.

In order to make one nail go through two shingles they must be driven low enough so as to catch the top ends of the under course, and high enough so that the next course will cover the nails. See Fig. 1. If left exposed they will soon decay.

In order to do good work the sheeting must be close; one and one half or two inches may be left between. It is then

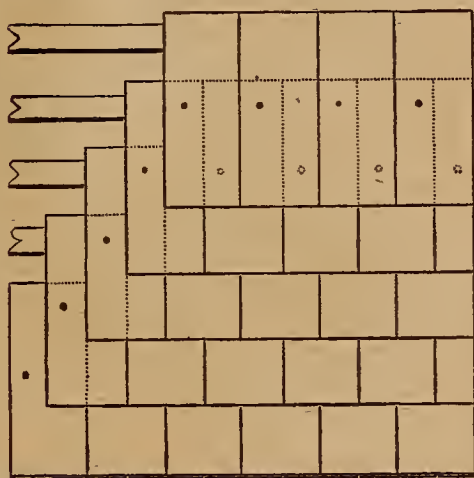


FIG. 1

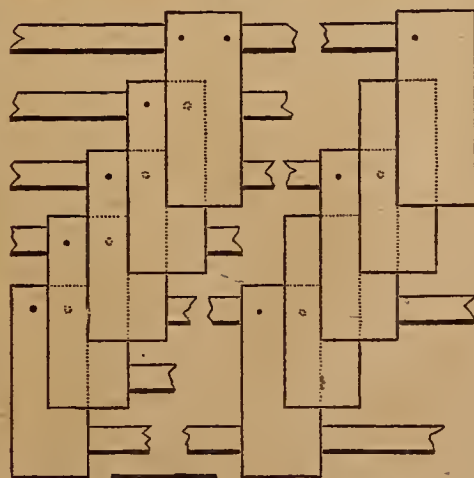


FIG. 2

FIG. 3

much easier to get about on the building, and it also keeps the shingles from turning up at the ends.

Fig. 2 shows two nails to the shingle, as used by some. It takes twice as many nails and nearly twice as long, and, besides, it is not as good, because shingles are so thin at the top; also, two nails will split worse when driven side by side.

Shingles should not be nailed in the center, for they will split. If nailed too near the edge, the shingle will curl up on the other side. Nail about one and one fourth or one and one half inches from edge.

If you nail the edge next to you, do so every time, and you will have two nails to every shingle and as many shingles as nails.

Fig. 3 shows the wrong way to shingle. C. T. ARCHER.

PITHY POINTS FOR THE FARMER

A farmer is known by the stock he keeps and the farm that keeps him.

If you cannot send your boy to college, let the college come to him by mail.

There is no doubt about a cat having nine lives when she has nine kittens.

The best way to kill insect enemies of the farm is by care—care in preparing for their death.

The farmer's best standby is his farm paper. He should work by it, talk by it and sell by it.

In the handy vest-pocket lexicon of the successful farmer every page contains "Try," "Can" and "Did."

Treat your horse as if it were the only horse on earth and you could not get another when it is gone.

Sleep by an open window summer and winter and your life will be open to good health all the year round.

A little knowledge about successful farming is not as dangerous as much knowledge only used a little.

You will have no trouble keeping your boy at home if you will make the home so attractive that it will keep the boy.

Buy what you need as soon as you need it, and do not hesitate to make a bargain with the man who needs what you have in your possession and do not need yourself.

There are two ways of advocating good roads: First, talk good roads every time you get a chance; second, back up your talk with money, work and time when you get a chance.

Do not borrow money from an unhealthy man—he might die before you get an opportunity to pay him back. Do not borrow money from a man who has a weak heart—he might drop dead when in after years you approach him.

Josh Billings said that it was better not to know so much than to know so many things that are not so. Young man, if you know that you should stick to the farm, you know something that is so. Don't forget it, and don't forget to stick.

System is a fine thing on the farm. Every tool in a certain place. Know where to get it when you want it. No time lost in finding out who had it last and what they did with it. Since a farmer wants what he wants when he wants it, system should not be wanting.

Night seems to have been created to sleep in, and man is so constituted as to need sleep when night comes. Therefore, sleep all over while you sleep, and do not bother your brain about the affairs of the farm. But when daylight comes, prove yourself an expert at being awake as well as sleeping.

A certain farmer who had allowed the weeds to grow up in his corn field assured his neighbors from week to week that on Monday morning he would sure begin to "make the high tops fall." But he did not, and consequently raised less corn to the acre than any of his neighbors. Moral: Do not wait until Monday to make the high tops fall—begin any time.

No business can be run on a small scale as profitably as the poultry business—but you must know more about the hen, the rooster and the pullet than the bashful boy, who, when asked by his sweetheart's mother if his folks were raising any poultry, replied, "Yes, ma planted some, but the chickens scratched 'em all up."

Who has more right to ride a hobby than the farmer or his son? It may be to ride the hobby of invention—that is, invent something entirely new or improve something old; it may be to subscribe for and read every agricultural journal published; it may be a dozen other things—whatever it be, ride it. That is, of course, if it is useful. Remember, the man who spends a great deal of time on his hobby proves a bore. Some people, however, never mount their hobbies—they stay on them all the time.

W. J. B.



Rider Agents Wanted

In each town to ride and exhibit sample 1907 model. Write for Special Offer. Finest Guaranteed 1907 Models \$10 to \$27 with Coaster-Brakes and Puncture-Proof tires. 1905 & 1906 Models all of best makes \$7 to \$12 500 Second-Hand Wheels All Makes and Models, good as new \$3 to \$8 Great Factory Clearing Sale. We Ship on Approval without a cent deposit, pay the freight and allow TEN DAYS' FREE TRIAL. Tires, coaster-brakes, sundries, etc. half usual prices. Do not buy till you get our catalogs. Write at once. MEAD CYCLE CO., Dept. B88 Chicago

WANTED

Information regarding good farm that is for sale and which can be bought of owner. NO AGENTS NEED ANSWER. Wish to hear from owner only willing to close his own deal and save buyer paying big commission and fancy price to some agent. Would also like to hear of good small business for sale by owner. Address, INFORMATION DEPARTMENT LOCATOR PUBLISHING CO., Minneapolis, Minn.

If you will get two of your neighbors who don't take Farm and Fireside regularly to subscribe at twenty-five cents a year, and you send us the fifty cents, we will send Farm and Fireside to each a full year and give you a full year without a cent of cost. Three yearly subscriptions in all. That's a good fair offer. Let us hear from you.

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thing can work up a big side line that takes very little time once a month; sewing machine agents, tax collectors, book agents, nursery-stock solicitors can double their business. Instructions and outfit cost you nothing. We only want a reply from you that you are a hustler, and we will do the rest. Write us at once. Circulation Dept.

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UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine, revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-THIRD YEAR.

RENEWING THE STRAWBERRY PATCH

A FARMER'S wife who states that she "is a little bit green," asks me what I do to my strawberry patch when it is through bearing. She has read that the proper thing to do is to plow it up and move the plants to other ground. She thinks that is a hard way to grow a few strawberries for home use, and would like to know if she cannot continue the patch right where it is for four or five years, as it is just where she wants it.

I very much dislike to move a strawberry patch when I once get it established, and will not do so until I have to because of disease or insect enemies. The first thing I do to the patch after the berries are gone is to mow the plants off close to the ground. I then rake off the mulching, if there is any, and all the trash. Then with a sharp, bright spade I dig up strips about a foot wide across the patch, turning each spadeful upside down. The dug-up strips are twelve to fifteen inches wide, and those left are ten to twelve inches wide. I have a hoe with a blade four inches wide made from a regular hoe with the sides cut off—and, by the way, it is one of the most useful garden tools I have. With this made sharp as a knife, I cut out some of the plants left and loosen up the ground. When this job is finished the entire surface of the patch is loose and mellow and the remaining plants are six to twelve inches apart. If the weather happens to set in dry just at that time it is a good idea to cover the patch with a mulch of well-rotted or fine manure. If it is damp this is not needed.

The mowed-off plants start up at once and send out some runners. These will root and make a bed plenty thick enough for business. If the season happens to turn out very dry, the runners may not take root very readily. In that case a coat of fine manure will do lots of good and enable the runners to root. I think I can remember but two seasons when it was too dry for the runners to take root. I put about three inches of fine manure over the entire patch, and enough of them rooted to make a fair stand of plants. Late in the fall I mulch the bed well with fine manure, if there is none on it, and let it go. Treated in this manner a patch will stand and do well in the same spot many years. Two things to look out for are dry seasons and very wet ones. In very dry seasons the patch must be mulched as above directed, to induce sufficient plants to root to make a good stand. And in very wet ones the growth is likely to be so rank that too many runners will root and make the stand too dense. If there are too many plants, thin them out with a sharp hoe before winter comes on. If the plants are too close together they do not bear well, and the berries are so shaded that they rot badly in wet weather.

ABOUT CHERRIES

This lady also says she is very fond of cherries, and blithely writes: "Tell me all about growing them!" I happen to be quite fond of cherries myself, and have quite a number of trees. The hard freezes of the past spring destroyed about all of the early varieties like Early Richmond and Montmorency, but the Morellos are full. I would procure two or three year trees, preferably the latter, and head them low. They can be headed low by shortening in the leading branches. I would have the lower branches not over two feet from the ground. The lady says she has four trees growing now. I would head these low, because there is no sense in running them away up and then buying tall ladders to reach the fruit. I would plant at least three varieties—say four each of Early Richmond, Montmorency and English Morello. These ripen in the order named, and will give an ordinary family a good supply. I would set them about twelve feet apart, and as near to the house as convenient, because of the ravages of the birds. The lower branches may be thinned out so as to give one easy access to the body of the tree when gathering the fruit. I allowed the trees I have to head too high and consequently have considerable difficulty in getting the best fruit, which is largely on the ends of the highest branches. All cherry trees should be headed very low; then one can gather most of the fruit with step ladders of moderate length. F. G.

AGRICULTURAL NEWS-NOTES

The pioneer "R. F. D." man was Edwin H. Shriver, who was put in charge of the first mail wagon started from Westminster, Maryland, April 3, 1899.

The poultry exhibit at the Jamestown Exposition will take place October 22d to November 1st. John A. Murkin has

been appointed superintendent of the exhibit.

The final regulations for carrying out the denatured alcohol law were announced by Commissioner of Internal Revenue Hon. John W. Yerkes about July 1st.

The magnitude of the White Burley tobacco-growing industry is shown by the fact that this year seventy-two thousand acres have been pledged to the Society of Equity.

In Austria figs are used instead of chicory as an addition to coffee. One hundred and fifty thousand dollars' worth of figs are annually imported from Algiers for this purpose, according to a recent consular report.

Over three thousand farmers visited the Illinois dairy train, which stopped at thirty towns, where brief lectures were given on dairy matters. A fine exhibit of dairy products and dairy appliances was shown.

A leading paper in Canada says that in Nova Scotia and British Columbia apple growers claim that their orchards are paying fifteen per cent per annum on a valuation of one thousand dollars an acre.

In California fruit for market is carefully graded and put up in neat packages, on each of which there is placed a card giving the name, post office, express address and telephone number of the grower.

A leading agricultural journal of England, in referring to a recent legal issue involving the invention of the basic-slag process, says: "His discovery was a stroke of genius, and has been of enormous benefit to agriculture."

In the state of Washington the principal apple-growing counties are Yakima, Chelan, Spokane and Pierce. Those of plums and prunes are Clark, Whitman and Thurston. The peach-growing counties are Yakima, Chelan and Whitman.

The English method of growing a wheat crop of thirty-five bushels of grain and one and a half tons of straw to the acre is to apply three hundred pounds of superphosphate at seeding time and one hundred and fifty pounds of nitrate of soda in spring.

In the vicinity of Fair Oaks, California, recent investigations go to show that the Winter Nellis pear is less subject to blight than the Bartlett. As the Winter Nellis is of a fine quality, the discovery is important. It is now known that the varieties that ripen latest are less subject to blight.

Crystal Springs, Mississippi, is one of the most important truck-raising points in the central South. The big government steam whistle at that place announces the coming of a light frost with one prolonged blow, a heavy frost by two, a light freeze by three and a heavy freeze by four blasts.

The "King" method of dragging the roadway is being generally adopted. The best time to use the drag is just before nightfall, when the heavy hauling is over for the day. The surface having been made comparatively smooth, the water does not remain in the roadway, and it quickly becomes firm.

Bad roads and rural free delivery constitute an impossible combination. The Post Office Department now asks that the roads on R. F. D. routes be improved where necessary or the service will be discontinued. Why not round up the driveway, making it not more than twelve feet in width where the worst places occur?

Much as the rural population now object to the automobile on the public roads, such prejudice is likely to vanish as their real usefulness becomes more fully realized. The motor car is sure to promote the growth of fashionable colonies near large towns which are not at present provided with either trolley or railway facilities for quickly reaching the cities.

There is a growing demand for sterilized milk put up in convenient form for customers. It is said that paper pails with tightly fitting covers are now used in the vicinity of London, England. The customers use the pails for kindling fires.

The farming districts of the United States are destined within ten years to be covered with a complete network of electric railroads which will operate a greater mileage than the steam railroads now have.

In respect to the restrictions or requirements of the National Pure Food Law, so far as it relates to the canning industry, it will have a most salutary effect and result in their increased use by the public in proportion as the population increases.

A PARASOL FOR OUR LADIES

WITHOUT COST

Read below how you can get it

IT'S A PERFECT BEAUTY!



Description:

We have no hesitation in telling our ladies that this is one of the prettiest sunshades we have ever seen. For a long time we have been looking for a parasol that would be good enough for the ladies of the FARM AND FIRESIDE family, but not until we found this beautiful one were we successful. Miss Grace Margaret Gould, America's foremost fashion authority and editor of the FARM AND FIRESIDE fashion pages, says that these white linen parasols are the very latest vogue. Every one of our ladies should have one. This one is

MADE OF INDIA LINON

with a wide row of various designs of embroidery insertion around the entire parasol. You never saw a more handsome sunshade, it is perfectly stunning, and is not only most stylish and up-to-date, but, what is even more important, *will last for years*. White linen parasols with embroidery are all the rage this summer. They have come to stay. Be the first lady in your locality to own one of these handsome luxuries. You will be prouder of it than you ever have been in your life. It is most durably made, has a steel frame and is

FINISHED IN SILVER

to match with the white linon. The fancy stick is made of genuine bamboo. This handsome parasol will be sent to any reader of FARM AND FIRESIDE who sends us only fifteen subscriptions to FARM AND FIRESIDE at 25 cents each. No more than one parasol will be sent to one person, and this offer is made only to our *regular readers*. Remember this beautiful parasol is yours for only fifteen subscriptions. Don't let any one in your town get ahead of you. Send all orders to:

FARM AND FIRESIDE
SPRINGFIELD, OHIO



This is a picture of Charles O. Angle, R. F. D. No. 4, Danville, Pa. In a recent letter to FARM AND FIRESIDE he said: "Every one I would ask to subscribe to FARM AND FIRESIDE would ask me to see it, and as soon as they saw what a good paper it was, they subscribed right away. I am proud of my watch for it is just what FARM AND FIRESIDE represented it to be." You will be proud of your watch too if you will let us send you one.

ANY BOY CAN EARN A WATCH IN ONE DAY'S TIME

It is so easy that some boys have gotten watches almost before they realized it. You can get one just as easily and just as quickly if you want to. We have over three thousand of these fine, serviceable watches to give our friends during the next few months, absolutely without cost. These watches are made by one of the largest and most reliable watch factories in America. By buying thousands of them we get them at greatly reduced rates and can thus make our boys this liberal offer.

THIS IS THE WATCH

we want to send right to your door without its costing you a cent. It is the same kind of watch that we have sent to Charles Angle and thousands of other boys. You can get it almost before you know it, by telling all your relatives and friends that you are working for a watch, and getting their subscriptions to FARM AND FIRESIDE—the best farm and family paper published.

MOVEMENT Regular sixteen-size, and three eighths of an inch in thickness. Lantern-pinion (smallest ever made). American lever escapement, polished spring. Weight, complete with case, only three ounces; quick-train—two hundred and forty beats a minute. Short wind; runs thirty to thirty-six hours with one winding. Heavy bevel crystal. Bevel snaps on. Tested, timed and regulated. This watch is guaranteed by the maker.

THE GUARANTEE In every watch will be found a printed guarantee, by which the manufacturers agree that if without misuse the watch fails to keep good time within one year, they will, upon its return to them, with five cents for postage, repair it free of charge, and return it.

DESCRIPTION—Plain Center Band. Elegant Nickel Case, Snap Back, Roman Dial, Stem-Wind, Stem-Set, Medium Size, Oxidized Movement-Plate, Open-Face.

ENGRAVED FRONT AND BACK

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Send us your name and address on a postal card today and tell us you want to get a watch. We will send you by return mail a book of eight coupons, each one of which is good for a year's subscription to FARM AND FIRESIDE. We will also send a sample copy of the paper so you can show it to your friends. You sell these coupons (each good for a full year's subscription) to your friends and neighbors at 25 cents each. When the coupons are sold you send the \$2.00 to us and we will send you the watch immediately.

Thousands have earned watches by this plan. You can do it in one day's time. Write today and be sure to ask for a book of eight coupons.

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SPRINGFIELD, OHIO



FARM^{AND}FIRESIDE



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KEEPING THE FARM NEAT AND TIDY

EVERY year we get a good deal of advice about keeping the farm in neat, tidy condition. Usually the principal part of this advice comes from writers who farm in their minds instead of in the fields. When a farmer has about three men's work to do he has little time to put frills on his farm, and no matter how well he likes a neat-appearing farm, he must let the finishing touches go until he is through with the crop making and crop saving. By the time this is done the farm may have a somewhat ragged appearance. But one can, with about two days of strenuous exercise, make a vast difference in its appearance.

Where a man is doing most of his farming single-handed it is a good idea to so arrange things that the cutting of weeds along the fences and in the corners can be done with a mower, for there is no harder job on a farm than chopping down big weeds and tough grass with a scythe.

If the weather is hot, this cleaning up should be done early in the morning, and when the heat reaches the broiling point operations along that line may be suspended until the following morning. There will be some scythe work to be done in the close corners, and that should be done in the coolest part of the day, for what sense is there in going to the limit of endurance on things of this sort?

It is a good idea to run the mower over the pastures and cut down the weeds that are sure to be there pumping the fertility and moisture out of the soil to no good purpose. I have seen pastures ten and fifteen years old that were almost perfection, growing a heavy crop of grass every year and being entirely free from noxious weeds. They were kept in this condition by being reseeded in alternate years and having the weeds kept down so they did not make seed. The owners have told me that weeds by the million sprang up the first three or four summers, but were clipped often enough to prevent their going to seed, and after that they had no trouble at all with them.

A man who owns a very fine pasture eighteen years old informs me that he reseeds lightly in each alternate year, choosing the most favorable opportunity between the first of April and June. He says he likes to catch the surface of the bare spots covered with fine checks, shallow cracks, then he is sure of making a perfect stand, the seed falling into these checks being sure to grow; then don't pasture too close, and a good growth is assured if a good mixture of grasses is used.

There is another spot on many farms that needs to be looked after about this time of year, and that is the garden. Very often it will be found a mass of huge weeds, not through any particular fault of the owner, but because he has not had time to look after it. If it is a large one he should now go into it with scythe and plow and clear it off and rip it up deeply. Then it is a good idea to seed with some rapid-growing crop that will be destroyed by frost. For this I know of nothing better than cow peas or buckwheat. Either will smother out most of the weeds likely to come up, and may be turned under with a coat of manure late in the fall when frost has laid it low. If one does this work during a period of the right kind of weather, or in early mornings, it is merely good exercise.

BORROWING FARMERS

Stepping into a bank one day not long ago I had to wait a few minutes for the cashier to finish talking with a farmer who has lived on the same farm something over twenty years, and who I supposed was pretty well off. He was sounding the bank in the matter of a loan. After he was gone I told the cashier I was surprised to hear his request. I had supposed he was well fixed financially—out of debt and had money in the bank. The cashier said he had been paying interest on a mortgage of nearly two thousand dollars for twelve years that he knew of, and in that time he never had a dollar in the bank. He wanted to borrow money to pay the interest. The banker said that I would be more surprised if I knew how few of the farmers have bank accounts, and what small amounts many of those who do have them have on hand. Then he said I would be surprised again if I knew how much some of the most enterprising, down-to-date farmers who own their farms and live tenant farmers had on hand. He said they had one tenant farmer depositor who banked more money during the year than the owner of any farm of the size this man rents. He said he had three women depositors who actually bank more money each year than many a hundred-and-sixty-acre farmer. They make this money raising and selling poultry.

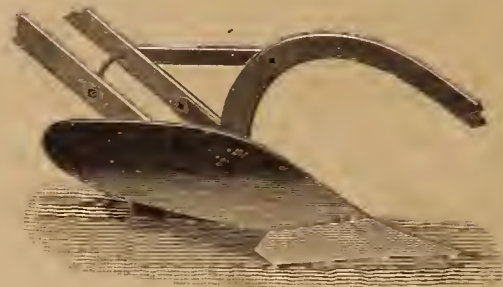
I am constantly hearing farmers who are tilling eighty and more acres of good land complaining about being close run, or in debt, and I have no patience with them. The farmer who has tilled his own farm for twenty years and isn't from one thousand to five thousand dollars ahead ought to be ashamed of himself. That is, of course, if he hasn't had serious and expensive bad luck. To some men's pockets money is like a hot coal, and many more never own ten dollars for the reason that it is spent long before they get it.

Prices of all kinds of farm products have been good for several years, and farmers never had a better opportunity to get out of debt and get a surplus ahead than now. The live down-to-date farmer does not put all of his eggs in one basket by growing a single crop, like wheat, or flax, or tobacco, cash crops, all sold at one time and nothing coming in the rest of the year; but he has more than one string to his bow—corn, hogs, sheep, wool, poultry of different kinds, all marketed at different parts of the year, and all bringing a fair profit.

I know a farmer who has been raising and feeding hogs ten years, and in all that time I think he has not learned a thing. Three years out of the ten he has lost his pigs by disease a short time before they were ready for market simply because he feeds corn almost exclusively to breeding sows, growing pigs and those being fattened for market. Not much over a mile from him lives another farmer who has been raising hogs two years longer than the other man, and he is a moneyed man. He made a close study of pig raising and feeding, making experiments in a limited way and carefully testing methods he read about, and for eight years he has not lost a pig, and he says he has doubled the profits on those he has raised in that time. He feeds corn also, but not exclusively. He thinks corn is the grandest food of all for raising hogs, but it must be supplemented with other food stuffs. He relies on corn for fat and heat, and on clover, bran and middlings for muscle and bone. He says rape is a good succulent food for pigs, but not to be compared with clover for muscle and growth.

As in every other business, there are lots of fads started and chased by hog raisers, to their loss. Then there are also deep ruts to drop into that lead to failure. One of the ruts that thousands continue to follow is having pigs farrowed during the inclement weather of early spring—at a time when even with the best of care loss is almost certain. There might have been a time when March-farrowed pigs were more profitable than those farrowed at other times, because the markets were best just at the times when these early pigs would be ready for them. But that time is long past. The market is very nearly the same the year round now, and, as this man says, the time to have pigs farrowed is when the weather is likely to be so mild that there is no danger at all of losing them by chilling. A pig farrowed in cold weather receives a check in growth from which it is very slow to recover. Farrowed in warm weather, it is soon frisking about in the sunshine and thriving as a pig that will grow most rapidly into profit should thrive.

The farmer who keeps out of the ruts and does not go chasing after fads is the one who gets out of debt and accu-



PRAIRIE-BREAKER STYLE PLOW
Turns soil completely over, but does little in the way of fining

mulates a surplus at the bank. With the knowledge of soil culture, crop growing and animal husbandry that is easily available, there is no reason why the farmer should not be fairly successful and steadily accumulate a surplus without hardship of any sort.

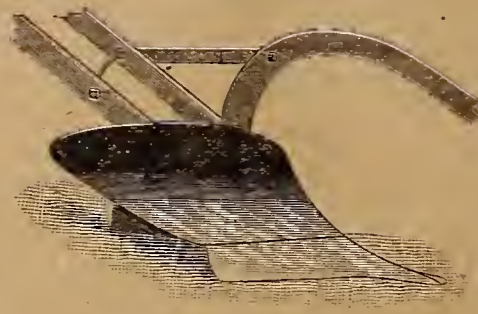
FRED GRUNDY.

ON THE PLOWING OF SOILS

There are several things to be considered in the plowing, or "breaking up" of land, as it is sometimes called. In this operation three things are accomplished in a more or less thorough manner, according to the skill of the operator and the character of the implement used. We may consider the pulverizing of the soil as much as possible, so that subsequent preparation of the soil may be done with as little labor as possible as the first and foremost object. After this we may con-

sider the turning under of green crops, rubbish, manure, etc., with the consequent incorporation of organic matter in the soil, as next important. And third, by "breaking up" the ground deep, and permitting water to enter the soil, we may increase the water-holding capacity of the land, and to a great extent prevent damage to the crops from drought and from washing.

A great deal of pulverizing of the soil may be done by careful attention to all the details connected with plowing, or "breaking up," or turning, of the land. And we should first consider the shape of the plow. Breaking, or turning, plows are of various shapes. One often seen, but more especially in new countries, is the prairie breaker. This is a plow with an extremely long mold board, especially constructed to turn under the long prairie grass and its tough sod. This implement completely inverts the furrow slice, or land turned by the plow, laying the grass perfectly flat underneath, but accomplishes little in the way of fining the soil, which indeed is not necessary in this case, as the dense mat of grass roots leaves the soil in a finely divided condition easily



A SHORT, BOLD MOLD BOARD
Does the maximum amount of fining of soil, but will not handle a very heavy soil as easily as the breaker

made ready for flax or any crop suitable to a freshly broken prairie sod. Indeed, in the Dakotas flax is often sown on this freshly upturned prairie sod with no further preparation than breaking. But after a few years' cultivation this mat of roots is broken and decayed and the preparation of a seed bed becomes a more serious matter. A different style of plow becomes necessary, one which not only turns the soil over enough to bury anything desired, but in so doing twists the furrow slice sharply and breaks it into innumerable small fragments, leaving the field a succession of corrugated ridges when plowed, far different from its appearance when plowed with the prairie breaker, which is flat; and if the sod were strong enough, one might seize upon one end and pull a string of sod from one end of the field to the other.

Not so, however, when plowed with a shorter mold board. The furrow slice is broken up and is not continuous, and the ideal plowing would leave not one inch in length not separated from every other inch. A short, bold, overhanging mold board accomplishes this work much better than a longer one, and a farmer should always pay close attention to the shape of a plow when buying.

There are, of course, many plows made for a special purpose, such as hillside plows, listing plows, etc., which every one who has had occasion to knows the proper place to use. It should also be said that a chilled plow will not "scour" or permit the soil to slide off the mold board easily in many rich, loamy soils where a still plow will. A one-horse turning plow, such as is occasionally seen in the Southern states, is a nuisance.

The time of plowing and the depth are matters which vary with the crop to be planted, the topography of the land, the character of the soil and the section of the country. Land intended for corn, if a heavy soil and not too rolling, and especially if a large amount of green material is to be turned under, is best plowed in the fall, so that the alternate freezing and thawing may break up the exposed surface, and leave it in a shape to be easily made ready for the crop in the spring, and also that the growth turned under may have time to decay and capillary connection be re-established between the plowed ground and the subsoil. If this is not done, the presence of a large amount of undecayed plants between the surface and the subsoil may cause plants to suffer severely in dry weather, as the water retained in the surface eight or twelve inches, depending upon the depth of plowing, may become exhausted, and the crop be unable to obtain more unless the material turned under has decayed and the roots of the plants can penetrate through it into the subsoil, and moisture can thus come up from below, so that the plants may use it.

Fall plowing should ordinarily be done deep, from eight to twelve inches. It will not hurt if it be done deeper than the land ever has been plowed before, if not more than two or three inches deeper, as the small amount of soil which has

never been exposed to the atmosphere will be made ready for the use of plants during the winter's freezing and thawing. For this reason, when from any cause it is decided to deepen the plowing, it is a wise plan to do so in the fall for spring-sown crops, as otherwise turning up fresh soil might cause a decreased yield of crops until the fresh dirt had been acted upon by the atmosphere. But no soil lighter than a loam or clay should ever be fall plowed. Light sands and sandy loams should always be left in some growing crop or kept covered with some crop during the winter and all other times possible, to prevent damage by leaching out of soluble plant food, and every effort should be made to increase the organic matter as much as possible in such soils.

Land for small grains, as wheat or oats, is not, as a rule, plowed so deep as for corn, as these crops have a large surface-root system and obtain the greater amount of their food near the surface. It is better, where land is "broken up" for wheat, that it be allowed to lie a short time before the crop is sown, in order that the freshly plowed land may settle or become somewhat compact.

Deep fall plowing for spring-sown crops is also recommended where the rainfall is scant, as it permits a much greater amount of moisture to enter the ground than if not done. It is more beneficial where a considerable portion of the rain falls during the winter.

It was stated before that one object of plowing was the turning under of green growths, rubbish or manure, and the consequent incorporation of organic matter in the soil. The latter in itself is a very important end, for as it decays it not only furnishes plant food, but a soil rich in organic matter will retain much more water than the same soil without the organic matter, and hence plants will not suffer so severely during dry weather. This is especially marked in any soil inclined to be sandy or leachy. On the other hand, a heavy clay soil is rendered more friable and easily cultivated if a considerable amount of organic matter be added to it. It becomes darker, richer looking and produces better crops. It is very desirable that the organic matter be distributed as uniformly through the soil as possible and as deep as possible, and nothing can accomplish this better than a good turning plow, turning under a good crop of clover, cow peas or similar crop.

Deep plowing also increases the moisture-holding capacity of any heavy soil and does good in two ways. First, the material which is turned up is broken into many fragments, and has numberless open spaces between the particles of soil, which permit rain water to go downward and lose itself in the soil, there to be held for the future use of plants, and it is prevented from running off the surface, if the land be rolling, and thereby carrying with it not only soluble mineral plant food, but particles of soil as well, forming gullies upon lands only gently rolling, if attention be not given them. And this is one instance where the subsoiler is of great value. This implement, if made to follow immediately behind the plow, if the lands be heavy, opens up the subsoil to a greater depth and permits water to pass readily downward, where it is held and made useful to plants, instead of being permitted to run off and do damage instead. On light, sandy soil it is of course not needed. It is especially useful on rolling lands not too hilly or stony. Any land of this character showing a tendency to wash should always be plowed deeply, and if very rolling due attention should be given to terracing. It is, however, much better to plow eight inches deep than two, as the latter just leaves the soil in a good condition to be carried away. The surface soon becomes full of moisture, and this does not readily pass on to the subsoil, and the shallow plowing goes down the hillside, while if plowed deeper it might have absorbed all the rainfall and not washed at all.

Different soils and different circumstances require different treatment. Poorly drained lands are not benefited by deep plowing, but heavy soils, where the rainfall is light, are benefited by deep plowing in the fall for spring crops, and even subsoiling might prove beneficial. It is not necessary to plow a very sandy soil deep, or even advisable, and certainly not advisable to fall plow the same, to lie open during the winter; but every attention should be paid to the incorporation of organic matter in the soil, and such land should never be left bare any longer than absolutely necessary for ordinary crops.

Heavy loams and clays may be treated in a different manner, and indeed a heavy refractory clay may often be easily handled by plowing in fall and leaving to freeze and thaw, especially if some lime be added to this treatment, when otherwise it might be very difficult to prepare it for crops.—CHAS. W. ELY, formerly with Bureau of Soils, United States Department of Agriculture.

BRAINS AGAINST CUNNING

ONE of the big city dailies recently published the picture of a newly discovered Central African gorilla, the monarch of the jungle and forest, nearly half a ton in weight and of such gigantic stature and bodily strength as, himself without knowledge of fear, to strike terror to every living creature about him, even to the other giants of the jungle, including lion, elephant and crocodile.

This monstrous creature, with all his natural cunning, was master only until man, one sixth his own weight, came upon the scene—the one representing brute force and cunning, the other brain power. The modern rifle devised by the genius of man, even in the hands of the four-foot dwarf, will speedily lay the great ape low, and deprive the powerful arms of their superhuman strength. It is brains against brute force and cunning, and brains come out ahead.

One of the farmers' bulletins recently issued by the Department of Agriculture has for its subject the common rat, damages done by it and the means of fighting it. When I think of the tribute I and my neighbors, and in fact the majority of farmers, have been paying to this cunning little rascal I concede at once that no pest that preys on our crops or other property is more deserving of the distinction of being the sole topic treated in a lengthy bulletin than the rat. It has cost me hundreds of dollars, in grain and meals spoiled and wasted, in chickens killed, in bags and fabrics, and even furniture or other woodwork injured by gnawing, and many hours of work and watching, and sometimes of anxiety.

Here again is the fight between human brains and animal cunning, and man with his wit and ingenuity will come out victor, or it will be his own fault, the fault of his carelessness or indolence. The cunning of ever so cautious an animal as the rat is no match for the inventive genius of man if the latter sees fit to make use of it.

I believe that there is no reason whatever why we should continue to pay this heavy tax. A drove of rats suddenly taking up their quarters in our barn, having for some reason left their old quarters on a neighbor's premises, may give us an unpleasant surprise, but should at once stir us to vigorous action. I have to go through this experience quite frequently. Sometimes I have to pay my tribute for a while; but as soon as I find there is serious trouble ahead, the grain and meal bins are more carefully kept closed, and the chickens placed in rat-proof coops during the night, so as to reduce the losses to a minimum, and in the meantime the various traps are kept carefully and persistently baited and set until the last rat has been disposed of, and there is peace again in the family and on the premises.

I should hate to acknowledge that my ingenuity was not equal to the emergency, and that rat cunning could keep the upper hands of human brains. If one trap or one kind of bait fails, another trap or another kind of bait is tried, until finally the object is accomplished.

It is not difficult, either, to devise means for trapping these rodents at wholesale. A tight box or grain bin of generous proportions, kept supplied with a bushel or two of corn in the ear; a trap door that is left open during the night, for the rats to have access to and peaceable possession of the box or bin for a week or two, then finally the trap door closed late one evening after all the rats are supposed to be feeding inside, and you have them. A four-ounce bottle of chloroform or of bisulphide of carbon emptied into the box or bin will soon quiet all the rats within.

CONCRETE AGAINST RATS

One of my nearest neighbors and friends has just been building a large stock barn. He has had much experience in the use of cement. The whole ground floor and stables have been filled up with slag and cinders to within a few inches of the upper edge of the sills, and a good coat of concrete has been put on this foundation, even with the sills.

The horses stand on a plank floor laid directly on the cement floor. No rat will find a hiding place in the barn or stables, and the expense of fixing the floors will be repaid many times in preventing the depredations of rodents.

In these days of high lumber prices, and with no prospects of a return to lower prices in sight, concrete seems to be the most available building material. It will help us to make our buildings rat proof and to provide everlasting material when wood gives out.

WINTER INJURY

Twenty or more years ago the question of protecting some of our bush fruits from winter kill was much discussed at our horticultural meetings. The practise of "laying down" blackberries, raspberries, grapes, etc., found many advocates. During a long period our winters have dealt very leniently with us. We began to feel safe and to forget that there was any danger. So the question of winter protection was really lost sight of.

The past winter, or rather the condition in which it left many of our small-fruit plantations, came as a reminder that some of these bushes are by no means iron-clad, and are still subject to serious injury by unfavorable winter conditions. I have lost most of my raspberries and blackberries, even the so-called hardy Snyder and Eldorado among the latter, the Marlboro and Golden Queen raspberries, and most of my grapes.

The grape crop seems entirely ruined for this year, and many of the varieties, even those of reputed hardiness, have to make new canes from the root up, the old ones being entirely killed or greatly weakened.

All this means to us a greatly shortened fruit supply for this year, and possibly for another year. But to make up for it, the winter has also greatly reduced our insect enemies, and as for the bush fruits, replanting will soon repair the damage. We may not have such a winter and so much winter kill in years, and I hope we may not see a summer so favorable for the spread of San Jose scale as we had last year.

The Cuthbert, raspberry seems to have come through all right. Currants and gooseberries also wintered perfectly as usual, and when we once adopt the practise of pruning the grape and laying them down upon the ground, even without covering, the losses by winter kill will be very slight.

ARSENICAL POISONS

Every corner grocery or country hardware store keeps Paris green for sale. But do not go to such stores and ask for

which you can procure at the nearest druggist's, then pour the two solutions together, and you will get a liquid or pasty arsenate of lead, now by far the best, because safest and most effective, poison for leaf-eating insects.

Use a pound of this paste to from twelve to fifteen gallons of water, or, better, Bordeaux mixture. Spray it on your vines and they will be safe.

T. GREINER.

FILING SAWS

I read your article on filing a saw, but do not agree with the advice. If you cannot file it right, hire an expert.

It is a poor mark for a workman if he cannot keep his tools in order. First buy a good saw—one of the best you can find—the best is none too good; and when you are buying one, buy at least two—a crosscut and a rip saw. Next you want to buy two files—one for each saw. For my use I would take a crosscut, eight teeth to the inch, and a rip with six.

A new saw generally has set enough. It ought to make a cut twice the thickness of the blade. This is enough if the saw is filed to make a clean cut. Always set a saw before you file, if it needs it. You will need a clamp, vise or something to hold the saw solid, or you cannot do a good job. Have your vise in a good light, for good light and good sight are great factors in filing a saw. Next you need a block one by three by six. Bore a hole through it the three-inch way and two inches in from the end, large enough to hold the file solid, then make a saw cut the three-inch way, also up to the hole.

Put the file in the hole in the block. Put the saw in the clamp. Put the block straddle of the saw, and file the edge of the saw down until the file touches every tooth, and the edge of the saw is straight, or rather one fourth of an inch round. Joint your saw this way every time you file, and it will not be much of a job and your saws will always be in nice shape.

Now we are ready to file the crosscut saw. If you are going to saw soft pine, bevel the front of the tooth at an angle of forty-five degrees and nearly straight up and down. But the back of the tooth needs to be nearly square. This will make a stronger joint than if the back and front were beveled. You can accomplish this by keeping the file back at an angle of forty-five degrees and the file handle low. Remember, a saw can be filed to cut only one kind of wood best.

"He used to be a good boy, didn't he, father?"

Laddie was looking straight into my eyes.

"We all thought so, laddie."

"And he'll come back a good man, won't he?"

Something away across the country engaged my attention for a moment, while I shaped the answer. Boys are close cross-examiners.

"We will hope so."

It was not exactly satisfactory. I hardly thought it would be, and laddie pressed me for a more definite opinion. If he was not likely to be a good man and a pleasant neighbor, what was the reason?

So little by little it came out. Some stories had come back to the quiet little neighborhood about the young man since he went away. How is it that the good a man does is so slow to get around, while the bad things he does will be everywhere before sundown? It ought not to be so.

But we talked about the great world outside and the things it has to make people trouble. Our neighbor boy was surely a good, clean boy when he went away. Everybody thought he was so bright and so ready to learn that he would make his mark in the school to which he was going. After the school days were over, of course there would be some fine opening for him somewhere.

And yet—Oh, these "and yet!" How they take the heart out of us! We did not know all about it; but when the father and mother spoke about their son away out in the world, after a bit they lost the smile and the enthusiasm. You could feel a note of disappointment in the voice; and the disappointment was mixed with something harder to bear, something that comes only to the man or woman who is feeling the sharp sting of sorrow.

For some time there was only a blank in the history of the young man. We knew he was doing something in the way of business. Just what it was no one seemed to know, and the father and mother kept the matter close.

But now he was coming back into the neighborhood. The farm was the place, after all. God bless the farm! When life outside presses hard; when the hopes we had come to nothing; when we feel that we must get away from all the things that lure and hurt and bring sorrow, there stands the farm with wide-open arms, to take us back and give us the peace and rest and strength that can be found nowhere else on earth.

It seems sad, sometimes, that experience must be purchased at such tremendous cost. Why is it that often a young man must lay down some of the things that are most precious to him before he can learn his lesson? You would think that when a boy had been carried in the very heart of a good, kind, true Christian father and mother all his life that he must have received the strength he would need to carry him through anything and everything in the way of temptation that might come to him. It does not always work that way, though. How many

times it happens that when a young man gets out where the current runs swift, his feet are swept out from under him and he finds himself carried down the stream. Early training seems to be forgotten.

What does the little one learn from books amount to compared with the loss of so many things that are of the highest possible value? A man might better never know one word about books, and get simply the education Nature gives him on the farm, than to learn so much that never will do anything except bring a sting to his soul.

But there is the old farm. And it lures us back. Best of all, where is the man that can very long get away from the prayers of the old home? Years may slip by and forgetfulness seem to mark the life; active touch with the world may appear to have wooed the heart from old scenes; and still there will come a time when the heart will call us back to the old home. Blessed old home! Dear old farm! God's refuge from the rush and the stress of the world! Here men may come and lie with their poor, sick and tired bodies and worn spirits close to the breast of God and find peace. EDGAR L. VINCENT.



A HEADER USED AS A BINDER

On George Minden's ranch, two miles west of Gifford, Idaho. Mr. Minden farms about five hundred acres, mostly wheat, some oats, flax and corn. In this section mostly fall wheat is grown. The yield is from thirty to sixty bushels an acre. Flax and oats do well, and all kinds of vegetables and fruit. But little corn is grown, only on the benches or in the canyons. The country is well timbered with pine and fir.

arsenate of lead, or disparene or gypsine. If you will ask your seed dealer, he will most likely be able to supply you; or you may look in the advertising columns of your agricultural paper, and quite likely come across the advertisements of manufacturers of this poison. For people in the country towns this appears to be about the only method of securing a supply of arsenate of lead.

We have given the formula for making it; but you cannot make it without first having the ingredients. You must first "catch your hare." But there is another difficulty. Even in so big a city as Buffalo I could not find arsenate of soda, one of the ingredients, in the average drug store, and had to have it specially ordered for me. The other ingredients, acetate of lead (sugar of lead), is a common article, and can be found at every druggist's.

If you can go to a wholesale druggist, so as to secure the arsenate of soda needed, you can make arsenate of lead very easily yourself. Take one fourth of a pound of arsenate of soda, and dissolve this in one vessel in a little water; in another vessel dissolve eleven ounces of acetate of lead, or sugar of lead,

The softer the wood, the more bevel; the harder, the less.

The rip-saw teeth for soft pine should be straight up and down and very slightly beveled, so as to make a good corner on the tooth. A meat saw and a rip saw are filed the same. The tougher the bone, the more the angle, but never so much as a crosscut.

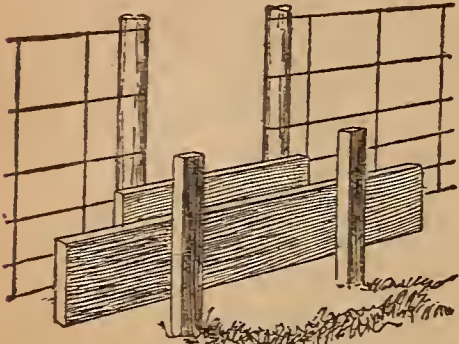
Never let your file cut coming back, as it will break the fine edge of the file. Go easy on a new file. Oil a new file with good oil before using, and it will last longer. No, it won't slip like a greased file. Try it. J. T. KELLIE.

A GOOD PLACE TO BE

Laddie and I sat talking farm matters over. The way it came around was this: A young man who had once been our neighbor's boy was coming to settle down on the farm near by. It did us good to hear of it. The place had been dreadfully run down and needed looking after; and then, the place had been deserted for some time, and that makes the neighborhood more lonely. When the lights go out anywhere in the country it makes a big hole in the world.

HOG GATES

I HERE show drawing of the plan I have of keeping hogs from going from hog pastures to cow pasture and at the same time allowing the cattle to go from one pasture to the other at will. The opening may be as wide as desired. Two-by-twelve-inch plank are nailed to the fence posts about four or six inches from the ground, and two extra posts are set out from the fence about a foot. The plank is nailed to the inside of these posts, and this plank should be about four feet longer than the one fastened to the fence, so as to go by the opening at each end about two feet. The hogs cannot jump the two planks, and



CATTLE STILE

small hogs that go between them cannot jump over, as they are lengthwise of the opening. The cattle will readily step over. The same plan may be used for sheep, only three planks may be necessary to retain them, although I use only two for them also.—W. N. Hathaway in *The Farmer*.

SUMMER PRUNING

Raspberries and blackberries produce new canes annually. When the new growth reaches a height of from eighteen to twenty inches for red and black raspberries, and two feet for blackberries, we break off the tip end of each cane. No shears or other pruning device is needed, as the new wood snaps off easily between the thumb and finger. We stop the young growth of currants and gooseberries at a height of from sixteen to twenty inches. The new canes are not all produced at the same time, and some do not develop as rapidly as others, thus making several trips necessary before all of the new wood is pinched back. As a result, in each case numerous lateral branches form, producing broad, compact bushes with a maximum expanse of bearing wood.

After the fruit is harvested it is our practise to cut and burn old raspberry, blackberry, gooseberry and currant canes, and from blackberry and raspberry plants we remove all wood older than the present season's growth, and also new canes that are weak and crowding—leaving eight to twelve canes per plant of red raspberries and blackberries; fewer canes (about six) of black raspberries are left, since these naturally make more branches. We remove all canes over three years old from currants and gooseberries and leave a new shoot to take the place of each old cane removed. After pruning a bush consists of from six to twelve canes of all ages, from one to about four years, and there is approximately an equal number of canes of each age. In addition to cutting out old canes and superfluous young shoots the young wood on the old canes that are left is thinned out and shortened to from eight to twelve inches. For cutting out old canes a pair of two-handed pruning shears is used. A special pruning hook with a cutting edge, and a chisel-shaped piece upon the back, also provided with a cutting edge, is recommended by the United States Department of Agriculture for this purpose. The implement serves as a brush hook in one case, and in the other, when the chisel blade is used, it serves as a spud. With grapes we find that better results are obtained by removing the fruit from canes that are to furnish the bearing wood for the succeeding year.—Colman's *Rural World*.

SEEDING TO GRASS IN AUGUST

The practise of sowing timothy and clover in wheat to get a sod is strictly good when there is plenty of soil fertility. If the wheat does not lodge, the chances are good for the young grass and clover. On the other hand, there is a poor show for a sod started in wheat on poor land. A better way is to give the young plants all the ground by seeding on well-prepared ground in late summer. If the ground is made fine and firm, and the stirrings have been repeated, plant food has been made available and moisture conditions have been made good. A single good rain on a fresh and yet firm soil will make the ground right for seeding, and the water from the sub-

Review of the Farm Press

soil will rise and keep the supply of moisture sufficient for the young plants. The summer preparation of ground for a seeding to grass has some of the advantages of the old summer fallow. That is to say, there is exposure to the air while the soil particles are being remixed with each other, and the inert material in the organic part and the inorganic part is made to yield up some immediately available plant food. One reason that some summer crops are hard on land is that the tillage of land leads to making the plant food soluble. If repeated harrowings are given land for a short time during the summer, and grass seeds are then sown in firm soil that can hold moisture, the young plants get a considerable supply of fertility from ground that is not rich enough to produce grain and strong grass or clover plants at the same time. The man who is getting heavy sods by seeding in wheat or oats needs no better way. The owner of thin land who is failing must bear in mind that good sods are the foundation of most successful farming, and that the young plants must have fertility and moisture; and if they cannot get these in the old soil that is lacking in good tilth, the right thing is to prepare the ground right and give the clover and grass plants every chance by seeding alone in August. A coating of rotted manure and some commercial fertilizer pay better on land being fitted for a sod than in most staple farm crops.—*The National Stockman and Farmer*.

ICE AND DAIRY HOUSE

The following is a description and sketch of a combined ice and dairy house I intend building: Fig. 1: A, dairy; B, ice house; c c c, angles of floor, sloping to drip pipe; i, d, cement tank for milk cans; e, box for butter, etc.; b, outlet of drain; h, shelf formed by wall; drip pipe to have trap to prevent ingress of warm air. Fig. 2 is a sectional view of wall, showing about two feet of an excavation for the dairy house. Fig. 3 is an enlarged section of the wall, g, of Fig. 1; a a a,

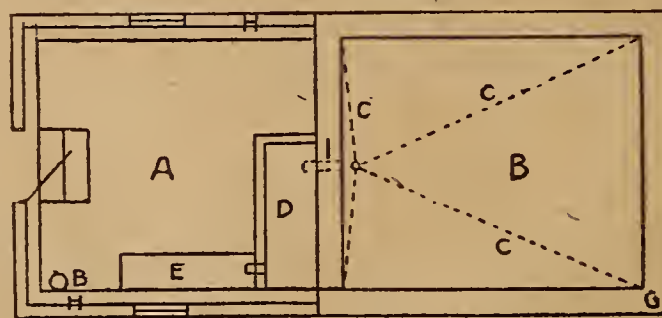


FIG. 1. SCALE 1/4" TO THE FOOT



FIG. 2. SCALE 1/4" TO THE FOOT

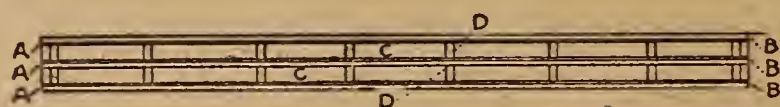


FIG. 3. SCALE 1/2" TO THE FOOT

ICE AND DAIRY HOUSE

sheeting of one-inch boards; b b b, building paper; c c, dead-air spaces; d d, two-by-four-inch studding.—Geo. W. Allnan in *The Practical Farmer*.

THE SHEEP PASTURE

For yearlings or mature sheep blue-grass pasture is the feed par excellence, but this caution must be borne in mind. Parasites that are extremely destructive to sheep are far more liable to find their way into sheep when they are grazing upon short, close grass—such as blue grass is—than when they are running upon higher growing grasses, such as red clover and alfalfa. Besides this, these parasites never trouble sheep that are feeding on a pasture where sheep have not previously fed, hence it is that new pastures insure freedom from the parasites which are the bane of the sheep grower's existence. Blue grass is the earliest and choicest feed we have, but if the sheep have run on it for several years, there is danger from the parasites, even in the case of mature sheep, and it is almost certain death to lambs. Hence, judgment must be used in allowing sheep to run on blue-grass pasture, and it must ever be

remembered that one is taking considerable risk in allowing sheep on old pastures.

When blue grass has been decided upon, however, and where it is abundant and not too washy, no other feed need be given. If soft or somewhat scarce, some corn and bran should be fed with it. In starting the sheep on pasture in the spring it is best to turn them on some pasture where the old grass makes up a large part of the feed; on such pasture the sheep will get a bite of old pasture with the new, which will prevent scouring, which is very liable to occur if the sheep are turned on pasture that consists wholly of new grass.—W. J. Kennedy in the *Northwestern Agriculturist*.

CARE OF MANURE

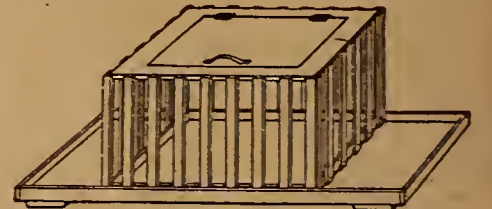
It has been demonstrated by eminent authorities that manure commences to ferment and loses qualities that are valuable to the soil as soon as it is dropped. Soil, like water, is composed of small round particles, and these particles contain the food upon which the plants feed. These particles in a healthy and ideal state are porous and absorb nutriment from the rains and decaying vegetation, which they store up to be fed to plant life as required. In worn-out and neglected soil these particles become hard and solid, the pores are closed up, and it requires the action of fresh fermenting manure to soften up the particles and open the pores and bring them into healthy action again; and here is where the great advantage of mixing fresh manure with it is most noticeable. The best authorities recommend that the manure be spread on the land as fast as made, in moderate quantities and frequently.

In an exact experiment conducted at the Cornell University 4,000 pounds of ordinary manure from the horse stable, worth \$2.74 a ton for the plant food it contained, was exposed out of doors from April 25th to September 22d (less than five months), but at the end of that time the total weight had decreased to 1,730

tained, because there was the action of the fermentation, which would have been gained had this manure been spread immediately. Therefore I believe it is safe to say that the loss was actually from sixty to seventy-five per cent. If the manure be hauled to the field and spread thinly over the soil as fast as it is made, say each day, or at least once a week, you save all the plant food it contains and receive all the benefit of the action of fermentation on the soil, as explained above.—Louis Carl in *Wisconsin Agriculturist*.

A SERVICEABLE FEEDING RACK

The feeding rack shown in the illustration is designed to prevent waste of feed given to poultry and to keep water from



FEEDING RACK FOR POULTRY

being soiled. It consists of a crate and a base tray of any desired size. The tray has two crosspieces beneath to prevent warping, and a rim of two-inch stuff. The crate is made of lath, say one foot long, nailed to a top consisting of a board one inch thick and a base frame of wood one and one half by one half.—*The New England Homestead*.

CONCRETE BLOCKS FOR SILO

There is no doubt regarding the suitability of hollow concrete blocks for silo construction, provided, of course, the blocks have been properly made of good materials properly put together and sufficiently seasoned before they are put under strain from the pressure of the silage. The pressure of silage on the walls of a silo increases with the depth of the silage and at a rate of approximately eleven pounds a square foot for each foot of depth. At a depth of ten feet the pressure at the time the silage is settling may be as great as one hundred and ten pounds a square foot, at twenty feet as great as two hundred and twenty pounds, and at thirty feet as great as three hundred and thirty pounds a square foot. Where cement blocks are used in the construction of deep silos it is probable that they would need to be re-enforced at the bottom, especially if the space between the doors is narrow. If a continuous door was used it would be necessary to tie with iron rods at frequent intervals all the way up. It is very doubtful if cement blocks sufficiently thick for silo construction could be laid as cheaply as the walls of a good stave silo can be completed. Unless the blocks manufactured are more than eighteen inches long the curvature is of but little importance when the diameter of the silo is greater than fifteen feet inside.—F. H. King, in the *Rural New Yorker*.

THE VALUE OF PHOSPHATES

The greatest difference between the rock and bone phosphate is in their cost to the farmer. In this matter there is considerable difference. The rock material costs about one third as much as the bone or animal fertilizer, when we consider the exact amount of phosphorus carried by each. In other words, the phosphorus or the plant-food element desired costs approximately three times as much when purchased in the bone product as when purchased in ground phosphate rock. Or, stating it still another way, twenty-five pounds of phosphorus, which is sufficient for a hundred-bushel corn crop, costs at present average prices, in raw rock phosphate, eighty cents; in steamed bone meal, \$2.50; in acid phosphate, \$3.20; in commercial fertilizer, \$8. In cost, we say, lies the greatest difference between the rock and other phosphorus fertilizers. Some of the bone fertilizer manufacturers are claiming that the phosphorus as contained in the rock product is not as available as that furnished in bone, and therefore not nearly so valuable as a plant food. While it is cheaper, it is not so useful to the crops on which it is used. But is this the actual fact in the matter when the question is put to the plants or crops themselves? According to carefully conducted experiment tests and practical field results which have been secured by the use of both classes of fertilizer, the arguments and claims of the bone-fertilizer interests have not been substantiated. On the contrary, they have been proven false, for in practical use the rock phosphate has produced equally good results in enhancing crop yields as has the animal product. At the Illinois Experiment Station the rock phosphate has made better gains, on an average, than the steamed bone meal.—*The Farmer's Guide*.

Gardening

BY T. GREINER

THE RADISH MAGGOT

MRS. J. T. LEWIS, of Montana, says the maggot never attacks her radishes or other root crops when she puts wood ashes and a little salt in the ground. The ashes seem to be the more effective of the two. One of my neighbors, a market gardener, often told me that his practise is to apply salt on his radish patch, and that his radishes are usually free from maggots.

The facts in the case are that radishes like good strong food like ashes, and are helped by their application, while the maggots are not particularly fond of caustic substances. Potash lye, like strong lime water made from fresh stone lime, is very likely to kill the maggots with which it can be brought in contact. Yet I have sometimes applied salt and sulphur and lime, one or more, in the drills with the seed and yet lost many radishes by maggot attacks. But when you have the wood ashes, by all means apply them. Salt also is cheap, and it will do no harm to use a little in this way.

We have just sowed another patch of radishes of the turnip-rooted sorts. They grow quickly, and are always in demand. One sowing may suffer from maggot depredations. Another sowing may be entirely clean and free.

CHICKEN MANURE FOR VEGETABLES AND FLOWERS

It is an old question that R. C. W., of New Jersey, addresses to **FARM AND FIRESIDE**: "What is the best use to make of chicken droppings in the vegetable and flower garden?" But it is one of importance, as many people have not much farm manure for their small gardens besides what they can get from their chicken houses and coops.

I use this class of manure mostly as a top dressing. Unless previously composted it would not be safe to bring it in direct contact with the roots of plants. When put on top of the ground around the plants, in reasonable quantity, it can do no harm, and it is sure to push the plants into vigorous, often astonishing growth.

I have always carefully saved every bit of these materials, gathered in hen houses, the chicken coops in and outdoors, the pigeon lofts, etc., and taken it either directly outdoors, to be put around tomato plants, egg plants, peppers, lima beans, cabbages, cauliflower, or along the celery rows during the growing season, or stored it in old barrels, of course mixed with a good proportion of absorbing materials, during the winter.

It is worth all the pains we are liable to take with it. To get the most good out of it we should try to preserve all its plant foods, especially the ammonia or nitrogen, its best and most valuable part. This may be done by using plain superphosphate, such as dissolved South Carolina rock or acid phosphate, quite freely under the perches while the droppings are accumulating. Such addition of superphosphate increases the percentage of phosphoric acid in the manure, and is particularly useful on many soils for tomatoes, melons, sweet corn, etc. It also has a decided tendency to hasten early maturity.

The one element of plant food found to be comparatively scant in poultry manure is potash. For crops needing a full supply of this, like cabbage and cauliflower, especially on sandy soils, simultaneous applications of muriate of potash or other forms of potash can therefore be recommended.

Don't waste poultry droppings. Around many flower plants they may be used, but somewhat more cautiously and with less liability, in the same way as for vegetables, always preferably as a light top dressing.

SOWING ONION SEED FOR SETS

I missed my green onions of the Silverskin or White Portugal variety more than anything else this spring. They are so delicious, and we had but few of them. We did eat plenty of the Welsh onions as the next best thing; but after this we think we must have the green Silverskin, too. I shall manage so as to have them. Of course we might grow sets and plant them early next spring. This would give us green onions a little later in the season.

A lady reader in Illinois asks me even now about sowing onion seed for sets. I find this method too troublesome and uncertain here. The first requisite is clean, sandy soil, which I do not have at my command. It does not need to be so very rich. A piece of medium fertility will do

very well. The rows can be made quite close, even down to eight or ten inches apart, in order to save space, but usually we prefer to have them twelve inches apart. I have a few times sowed seed for sets as late as July and secured a fairly good crop of sets; but the safe and ordinary way is to sow in early spring, using seed at the rate of forty to sixty pounds to the acre. So if you use an ounce of it to sow fifty or sixty feet of row you will not be far out of the way.

The diligent use of the hand wheel hoe and fingers for a little while will keep the patch clean, and the sets will soon ripen, as shown by the tops dying down. The sets may then be lifted with a good garden trowel and thrown into a sieve, to sift out sand and soil; then they must be spread out thinly, preferably on a dry floor under shelter, to cure thoroughly, and may then be stored in a cool, dry place, in shallow bins or baskets, or in cold storage.

It may be well to make provisions for a quantity of such sets, in order to have them in case of need. But how much easier and how much more satisfactory generally it has been for some years for me to produce big lots of the choicest green onions very early in spring by sowing Silverskin seed about August 1st to 8th in well-prepared and very rich ground. Try to secure seed of as strong vitality as can be had at this time of the year, and sow it at the rate of forty to sixty pounds to the acre, as you would for sets. Try this anyway, even if on a very small scale. The experiment is likely to give you much satisfaction.

This year I have even mixed a little seed of this Silverskin with Welsh onion seed and sowed a few rows in June for green onions next spring. This is simply for another experiment. My usual time for sowing Silverskin seed for spring onions is during the forepart of August.

PREPARING FOR A NEW ASPARAGUS BED

A Port Byron, Illinois, reader sends me some crippled asparagus stalks, and writes that his bed, now twenty-five years old, is gradually failing, and produces a large proportion of stalks in this crippled condition.

It seems to me that an asparagus bed that has given twenty-five years' honorable service is worthy of honorable retirement. Select a warm and rich piece of ground, if possible a little off one side, manure it well this fall, then plow it deeply in early spring, and set some good strong plants, say of the Palmetto variety, so as to have a year later a new plantation to take the place of the old one, which you should keep in grateful remembrance for the good it has done for a quarter of a century. Fall planting is practicable, but I prefer spring planting. This also answers the inquiry of H. L., an Ohio reader.

GROWING POTATOES FOR SEED

Again, as last year, I have planted a patch of Early Ohio potatoes especially for seed purposes. The tubers selected for planting last year, late in June, were all of the typical Ohio shape, plump and sound, and nearly dormant, or provided with the short, stubby sprouts, that indicate strong vitality, when planted. Every tuber that was in the least soft or wilted, or had already emitted long, slim sprouts, was rejected. The crop grown from this selected seed was materially larger than what I obtained from a lot of seed potatoes such as are usually planted at this late season, and the tubers were larger, on an average, and more regular.

The potatoes thus grown were all stored for seed, and they came out in excellent order this spring. When we got ready to plant them, again for seed purposes, of course, late in June, I found almost every tuber as plump and as sound as when we put it up last fall, and most of them were still nearly dormant. Very few of them had emitted the objectionable long, slim sprouts, and over ninety per cent of them were fit to be planted for "pedigree" seed.

I attach so much importance to the careful selection of seed potatoes, that I shall again dig this patch of Early Ohio myself, as I did last year, carefully rejecting every potato from every poor or otherwise unsatisfactory hill, and retaining for next year's seed only typical tubers from typical plants. I am now in a fair way of getting seed of this variety that can be depended upon as a superior strain of that good old sort. I am sure, too, that I can raise from it fifty bushels more to the acre than I could by planting the average indifferently selected and kept Ohio. I am now following the same course with the Noroton Beauty and Irish Cobbler or Eureka potatoes. In these sorts I believe I have the cream of the early varieties, and I shall take great pains to preserve them in all their prime.

Fruit Growing

BY SAMUEL B. GREEN

PLANTING FOR SPECIAL EFFECTS

Plantings of perennial plants may be made so as to give special effects. For instance, we may plant with the object of getting a strong effect in the spring, in summer, in autumn or in winter, or in a large bed it is quite possible to so combine plantings as to secure something of interest in it at all times of the year. It is very easy to secure strong spring effects, since most of our plants flower in spring and early summer. It is much more difficult, however, to secure good effects from summer planting, while for autumn effects we have comparatively little to work with. Good winter effects are obtained by using plants that have evergreen foliage and striking colors in bark and fruit. A bed with something of interest in it for the whole year may be made as follows:

In front we put such herbaceous plants as irises of various kinds, which flower in early spring, and are followed by baby's breath; back of these may come peonies of such kinds as give a succession of bloom for perhaps three weeks. Then may come spring and early summer flowering shrubs, such as Spiraea van

information as to how such a plantation should be arranged.

TIME OF PLANTING

For the beginner the best time for transplanting work in the North is early in the spring, although there are quite a large number of plants that do best if moved in autumn; but on account of the poor planting that is liable to be done by those who have not had experience, spring is generally considered the safest time for this work. In the case of street trees it is well enough for those who have had experience to set out the hardest kinds, such as white elm and green ash, in autumn, especially in autumns when the ground is in a moist condition. Our hardest shrubs may also be transplanted in autumn to good advantage, but those that are somewhat tender should be left until spring. With herbaceous plants the experienced horticulturist will get his best results from autumn planting, provided the soil is in good condition. This is especially true of peonies and irises.

Some of our best nurserymen recommend buying in autumn and "heeling in" over winter and planting in spring. This is a good plan if the "heeling in" work for winter is well done. If poorly done there may be great loss under such conditions. I am inclined to think that it is about as well to set out the stock where it is to grow, especially if the plants are small, and bend to the ground and cover them, tops and all, with earth and after-



PLAN FOR A BORDER OF HARDY PERENNIAL PLANTS FOR GENERAL EFFECT THROUGHOUT THE YEAR

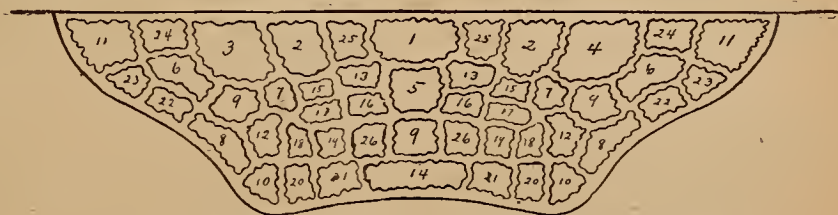
Key to Plants in the Figure:—1. Cut-Leaf Birch. 2. Austrian Pine. 3. Pyramidal Arbor-Vitæ. 4. Dwarf Mountain Pine. 5. Siberian Pea Tree. 6. Tartarian Maple. 7. Flowering Crab. 8. Tartarian Honeysuckle. 9. Rouen Lilac. 10. Common Lilac. 11. Mock Orange. 12. Purple Barberry. 13. High-Bush Cranberry. 14. Yellow Rose. 15. Juneberry. 16. Red Dogwood. 17. Red Elder. 18. Burning Bush. 19. Hydrangea. 20. Mountain Fleece. 21. Van Houtte Spiræa. 22. White-Flowered Almond. 23. Rosa Rugosa. 24. Spiræa Sorbifolia. 25. Snowball. 26. Tamarisk. 27. Golden Spiræa. 28. Golden Mock Orange. 29. Golden Elder. 30. Ribbon Grass. 31. Yucca Filamentosa. 32. Golden Glow. 33. Bleeding Heart. 34. Peonies. 35. Perennial Phlox. 36. Irises.

Houtteii and other spiræas flowering at the same time; golden elder will live up the somber green of its surroundings all summer by its brilliant and almost golden-colored foliage and its white flowers which appear in July; Spiræa sorbifolia produces its white flowers about the middle of July, when little else is in bloom; then may come the hardy hydrangea, whose great white panicles will be conspicuous through August and early September; Pyrethrum uliginosum will have white daisy-like flowers in September; New England aster has purple flowers in October and Boltonia asteroides has white flowers during the same season as the New England aster and is fine in contrast with it.

ward with a little mulch. This practically amounts to "heeling in" each plant separately where it is to grow in the spring of the year. Such a covering should be removed as soon as the plants show signs of starting in the spring.

MATERIAL TO PREVENT MILDEW ON GOOSEBERRIES

E. J., Stacy, Minnesota—I recommended potassium sulphide for gooseberry mildew. Sulphate of potash would be of no account for this purpose. The material that you want is cheap, and is commonly known as liver of sulphur. If your druggist does not know what it is under either of these names, he should look



PLAN FOR BED OF HARDY HERBACEOUS PERENNIALS

Key to Plants:—1. Golden Glow. 2. Pyrethrum Uliginosum. 3. Boltonia Asteroides. 4. Aster Novæ Angliæ. 5. Tiger Lily. 6. Peonies. 7. Phlox—"The Pearl." 8. Iris. 9. Bleeding Heart. 10. Lily of the Valley. 11. Variegated Ribbon Grass. 12. Yucca Filamentosa. 13. Clematis Paniculata. 14. Sweet William. 15. Larkspur. 16. Shasta Daisy. 17. Platycodon. 18. Columbine. 19. Gypsophila. 20. Oriental Poppy. 21. Lillium Rubrum. 22. Achillea Ptarmica. 23. Coreopsis. 24. Hollyhocks. 25. Bocconia. 26. Day Lily.

Interspersed with these plants or back of them may be planted such plants as will give a good winter effect. Among such might be included the white birch and red twigged dogwood, which would show considerable contrast with some of the smaller-growing evergreens like the arbor-vitæ and Colorado blue spruce, or if the bed is larger, some of the larger-growing evergreens, such as white pine and Norway spruce, may be used to a small extent.

Other plants will naturally suggest themselves to one who is familiar with the lawn shrubs adapted to this section, and it is one of the pleasant things about such a bed that the owner can impart much of his own originality to the methods of arrangement. Of course the aim should be to have all the plants show off to good advantage and yet have them all near enough together so that they will not have the appearance of being separate, but the whole thing will appear as a mass of light and shade.

The diagram herewith will give further

it up, as it is a common standard article. It should be used at the rate of half an ounce to the gallon of water.

RUST ON APPLE LEAVES

W. S. A., Brookings, South Dakota—I am inclined to think that the yellowish crab-apple leaf you enclosed was injured with what we know as apple-leaf rust. The only satisfactory remedy we know for this is Bordeaux mixture, which must be used as a preventive, as it does not cure. In applying this material, the first application should be made as soon as the leaves are well out, and repeated about once in two or three weeks during the growing season.

BROWN SHRUB

R. K., Greenville, Ohio—I do not know what you mean by brown shrub. If you will send me a portion of it, including a few leaves, and if possible some of the flowers, I think I can name it for you.

Poultry Raising

BY P. H. JACOBS

"BALANCED" FOODS

THE term "balanced" foods applies to rations that are supposed to contain all the required elements, in proper proportions, for accomplishing a certain purpose in feeding. No prepared ration can be balanced for all flocks or individuals, as the foods necessary for producing choice poultry for market may not be suitable for laying hens. It is conceded, however, that for laying hens and growing chicks the food should consist of some material rich in lime, as it is a very essential substance in completing the egg and in forming the structure of the chick.

Nearly all foods contain lime, in large or small quantity, and the lime in foods exists in a more soluble form than in the form of seashells and limestone. There are not only vegetable foods rich in lime, but also animal foods. Green bones can be digested by fowls, and clover, which abounds in lime, is one of the most nutritious green foods. Both are also rich in nitrogen. With green bones and cut clover added to the rations the hens should provide eggs in winter as well as in summer.

There is only about a pound of lime in one thousand bushels of wheat and about five pounds in the straw. The entire material of a thousand pounds of wheat, after the water and volatile matters have been driven off, may be condensed into about thirteen pounds, including lime, soda, magnesia, potash, etc. This may vary according to the soil and variety of wheat, but as wheat contains but little lime it is necessary that other foods, such as meat and bone, should be used in connection with both wheat and corn.

There are times when rapid growth of the pullets is desired, and fat is not then essential. To assist in keeping them growing, an excellent plan is to give them a meal of meat and bone once a day. If they are on a range they need no grain, and will be more thrifty by reason of the moderate feeding.

In the growth of a young fowl the main object is the increase of its weight, and when the food is both nitrogenous and carbonaceous there is a greater gain than when the food is mostly carbonaceous, such as when corn alone is used.

In an experiment made with animals and fowls, those pastured on nearly matured cow peas and supplied with corn made almost three times as much gain in live weight as those fed exclusively on corn, and they also gained more rapidly on ground cow peas and corn than on corn alone. In effect, 5.20 pounds of the mixed food was equal to 8.06 of ground corn. One pound of cornmeal, however, proved superior to three pounds of sweet potatoes, being more concentrated.

LOSSES FROM HAWKS

Hawks entail a heavy tax upon farmers who do not take time to watch these carnivorous birds. It is not wise to allow the hens to roam at will with their chicks, to become the prey of hawks, but nevertheless there are those who cannot avoid it, and must resort to the gun for relief. Hawks are very sly. They soon learn to know what a gun is intended for, and watch their opportunities accordingly.

Sometimes, before a farmer can get his gun, a hawk will pounce upon a brood of chicks, take its choice, and get away. They can be caught if the farmer will take time for that purpose. Hawks always take a good survey of the barn yard before beginning operations, and to do so they much prefer the top of a post or pole. By noting such locations and placing steel traps, securely fastened and set upon the posts, the hawks may be caught.

It is advocated in favor of hawks, however, that they do but little damage in the poultry yard, compared with the benefit they confer in the destruction of field mice, several varieties of hawks not being guilty except when driven to seize the chicks by hunger.

Many losses of chicks are attributed to hawks when the real offender is the family cat, that eats from the same dish with the chicks, but knows when to act without being detected.

WIRE FENCES

Wire netting is the cheapest material with which to construct fences for poultry yards. Where wire netting is used for making the division fences between the yards it will be necessary to have

boards at the bottom, reaching three feet above the ground, to prevent quarrels between the males. If the boards are three feet high, and the wire four feet high, the fence will be sufficiently strong, and the boards will also serve as a wind-break in winter.

WEIGHTS OF EGGS AND CHICKS

An egg is composed of many substances, about one half being water. It weighs (average) about two ounces, of which fifty grains compose the shell.

The chick from the egg should weigh from an ounce to an ounce and a half. Yet cases are known where the weight of the newly hatched chick has been nearly as great as that of the egg less the shell. A chick can gain as much as three ounces a week after the sixth week, the gain depending as much on the warmth as upon the food. It requires careful management to have chicks weighing two pounds each when ten weeks old.

SEASONABLE FEEDING

Poultrymen should draw the line between warm and cold seasons. This is the summer season, and the hens are not compelled to combat with the snow and cold of winter. They do not require food to warm their bodies to the point of resistance to cold, and the materials necessary to be converted into animal food in winter are easily saved now.

The hens do not require much aid from their owners at this season, and if they are fed heavily much of the food will be lost, especially if the hens can forage. It is not only best for the hens to be sparingly fed, but it is also a matter of economy.

The summer is the best season in the year for making a profit from poultry, as the cost of maintenance is then much less than during the colder period.

THE NON-LAYING DUCKS

The ducks that begin to lay early in the year have about finished their work for a while, and may be unproductive until next spring. As they can be kept upon grass during the summer and fall they should not prove expensive.

It is not advisable to keep more than one drake for the whole flock, no matter how many females there may be, buying the desired number of drakes next year. There are two reasons for so doing. One is that ducks are voracious, and consume more food than hens, and one drake with five hens (the usual proportion) entails an unnecessary expense. The other reason is that if the drakes are sold now it will induce the poultryman to infuse new blood next season by procuring drakes from other sources.

Old ducks are more reliable than young ones, and should be preferred if vigorous ducklings are expected next spring.

PLUCKING DUCKS AND GEESE

Do not pick the feathers from ducks and geese until the proper times for so doing are indicated. Geese may be picked two or three times a year (not in winter), whenever the feathers are "ripe," which may be known by examination. If the feather is bloodless and pulls easily it is ready to pick, but if filled with blood it is "green" and not mature. Commonly when ready to pluck, the feathers will begin to drop, and it is then an advantage to remove them.

It is a simple and sure protection to draw an old stocking over the head of the goose during the operation. The same rule applies to ducks, which should not be plucked until the feathers begin to come out. After the feathers are ripe the process is not painful to the birds, but to pull out the feathers when the quills show blood is cruel, and sometimes causes debility and death.

SPECIAL CROPS FOR POULTRY

A variety of food keeps the birds thrifty. There are some kinds of food that cannot be easily procured, while other kinds are expensive; but many foods can be grown on a farm as special crops for poultry, and it would pay to do so.

Millet seed, popcorn, sorghum seed, sunflower seed and buckwheat are excellent, and of the bulky foods, cabbage can be grown cheaply in most localities and is acceptable green food for hens if fed while fresh and crisp. Kale and beet leaves are equally as good, and are readily eaten. Sweet apples are also suitable, and in



Manson Campbell

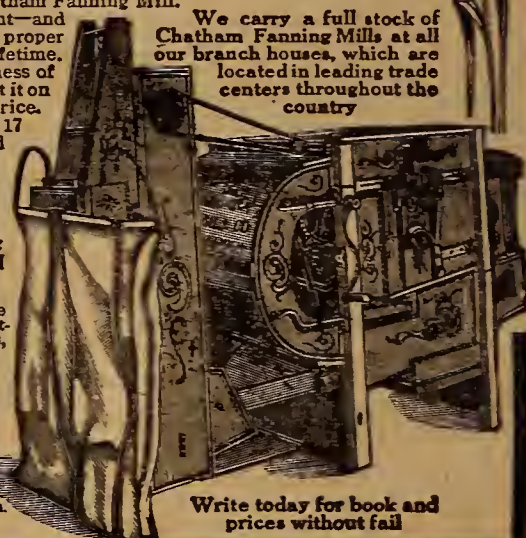
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fact almost any crisp, fresh, green food can be fed with profit.

The green food may be given the fowls confined in yards at any time, but it is better to feed it in the middle of the day, in such quantities that the fowls may have about all they can eat at one time.

LATE CHICKS

From now until Christmas the demand in the markets will favor the fat hens and the chicks that exceed the broiler weight (from one and one half to two pounds), and the market is never fully supplied. The large late chicks are known as roasters, and good ones sell at from fifteen to twenty cents a pound. They are simply large chicks that weigh five pounds to the pair. Roosters, on the contrary, sell at about five cents a pound, and are not wanted in the market, as they reduce the price.

Chicks that are to be sold for roasting should be fed three times a day for two weeks, so as to have them fat, to enable them to bring the prices offered for "choice and good." It costs less to produce roasters for market than to produce broilers, as the larger chicks have the summer season in their favor, but the broiler brings the higher price a pound.

If the chicks weigh over five pounds a pair, or if a fat hen weighs over five pounds, the prices will not be as high as for the lesser weight, for which reason it is more profitable for the farmer to sell the chicks before they become larger and cheaper.

THE SCRATCHING SHED

Twenty-six years ago I built a poultry house for thirty hens. That winter we had lots of snow, and those hens were shut in nearly two months, and of course hardly laid enough eggs to pay for their keep. The following summer I built a shed at one end of the house, having it open to the south, the opening being covered with netting, to prevent the fowls from leaving it until I permitted them. The next winter was another snowy one, and the fowls spent the days in the shed scratching among straw and cut corn stalks for the cracked corn I scattered among it daily. Every house I have built since that time has had a large, netting-fronted shed connected to one end of it. And if I were to build a hundred more they would be fixed up the same way.

F. G.

Before the fall months there are many things about the farm which you ought to get. Do not put off buying them until too late, but look up the advertising columns in this issue and see where to get what you need.

Let Me Quote You a Price On a
CHATHAM
FANNING MILL
With Bagging Attachment

They will separate oats from wheat—a perfect separation at the rate of from 40 to 50 bushels per hour

You ought to own a first-class, high-grade Fanning Mill. It will save you a lot of money—and make you a lot of money. Before you think of buying a Mill anywhere you should write me a postal asking for book and prices on my celebrated Mills. It will take only a penny for a postal—and a minute of your time—to get my special prices on a 1907 Chatham Fanning Mill with Bagging Attachment. My book will tell you how good Fanning Mills and Bagging Attachments are made—will tell you how I have made over 250,000 celebrated Chatham Fanning Mills, which are giving good service all over the country.

This book will tell you what you ought to know about clean seed—tell you a great deal about how to do away with the weed crop—will post you on the best way to make money out of your grain—will tell you how to grade up your crop—will tell you why it's just as easy—and cheaper—to raise good graded crops that bring the highest prices, as it is to raise poor, uneven crops on account of planting poor seed mixed with weeds.

We carry a full stock of Chatham Fanning Mills at all our branch houses, which are located in leading trade centers throughout the country

Write today for book and prices without fail

Mica Axle Grease
Helps the Wagon up the Hill

The load seems lighter—Wagon and team wear longer—You make more money, and have more time to make money, when wheels are greased with

Mica Axle Grease

—The longest wearing and most satisfactory lubricant in the world.

STANDARD OIL CO.

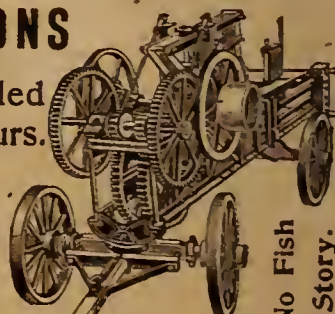
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HAY Baled in Ten Hours.

Our free catalogue tells you how 'tis done. Get one.

Columbia Baler.



No Fish Story.

Ann Arbor Machine Co.

Box 66, Ann Arbor, Mich.



Ornamental Fence Cheaper than wood—for lawns, churches and cemeteries—also heavy steel picket fence—sold direct to consumer. Catalogue Free. WARD FENCE CO., Box 28 MARION, IND.

FARMS ON THE EASTERN SHORE OF MARYLAND

are money makers; grow 2 crops yearly; near good markets; healthy climate; best educational and social conditions. Catalogue free. THE J. W. FUNK CO., Law Building, Denton, Md.

CORN HARVESTER cuts and piles on harvester or windrows. Man and horse cuts equal with a corn binder.

Price \$15. Circulars free, showing Harvester at work. NEW PROCESS MFG. CO., SALINA, KANSAS

FARM HELP and any kind of help supplied free of charge by the Labor Information Office for Italians, 59 Lafayette Street, phone 1199 Franklin, New York City. **FREE LABOR OFFICE.** Send for circulars and application blanks.

Live Stock and Dairy

SOME POINTS IN HEAVY HORSES

In breeding heavy draft horses the two most important qualities which the breeder must breed for are weight and size. But in addition to these qualities there are a variety of other points which are of great importance and which require the breeder's attention. Due consideration must be bestowed upon these points by the breeder for heavy draft-horse stock if he wishes to breed first-rate horses. Unfortunately, they are too frequently neglected, as is evidenced by the fact that a great many of our draft horses are deficient or actually faulty in these points.

THE HOCKS

The hocks are among the most important parts of a heavy draft horse, since the horse makes great use of them when hauling a load, and they are subjected to a great deal of strain and much wear and tear in the course of a cart horse's work. They should therefore be as strong as possible. If they are in any way weak they soon suffer from the effect of heavy work, and quickly show signs of wear, while frequently they develop unsoundness. This fault should be carefully avoided by breeders. The hocks should be of large size and very broad. Small and narrow hocks are weak, hence hocks of this description must be avoided in the breeding stock.

THE FEET

It is pretty generally recognized by breeders that the feet are a most important point in heavy draft-horse stock. Buyers of heavy cart horses for town work are usually well aware that the usefulness of these horses is to a large extent dependent upon their feet being of good shape and perfectly sound, and therefore they attach much importance to the shape and quality of the hoofs. The feet should be of fairly large size, wide open at the heels, and of good shape generally.

Small-sized, narrow or flat feet are most objectionable, and should therefore be avoided in breeding stock. Feet which are small or narrow or unduly flat do not wear well, and are very liable to become unsound when the horse is worked on hard roads. In the show ring a great deal of importance is attached to the shape of the feet of draft horses, and one with bad feet stands little chance of gaining recognition at shows of any standing. The importance of good and well-shaped feet can certainly not be overestimated, for when the feet become unsound, the animal's usefulness for further work is much curtailed.

THE BACK

A point of considerable importance in heavy draft horses is that the back should be short and broad. Shortness and breadth of back mean a strong back, while undue length of back is associated with weakness of the part.

That a weak back is highly objectionable in a cart horse need hardly be mentioned. In the first place, considerable weight falls upon the horse's back when it is yoked to a two-wheeled cart when loaded. In the second place, the propelling power developed by the hind quarters is transmitted by the back to the collar, and the stronger the back is, the better does it fulfil this function. It is very essential that the back should be well furnished with thick muscles, as a horse makes much use of the muscles of the back in heavy hauling.

ACTION

The walking action is another point of importance in heavy draft horses, and the breeder should bestow plenty of attention upon it. The walking action should be free and long-striding, while elasticity of the action is also very desirable. If the action is heavy, clumsy and "stumpy" the feet and legs are subjected to much more wear and tear, especially when the horse is worked on hard roads, than when it is elastic and light. A springy and elastic walk tends to reduce the effects of wear on hard roads to a minimum, and thus helps greatly to preserve the feet and legs in a sound condition. In order that the walking action may possess plenty of spring and elasticity, the shoulder blades of the horse must have a fair degree of slope, while the pasterns must not be too upright.

The action must be true and level, and there must be no tendency to go close, either in front or behind. A failing or fault which is found in not a few heavy draft horses consists in the hind legs, from the hocks downward, being twisted outward at each stride, in consequence of which the heel of the hind foot, after

being placed on the ground, is turned outward. This fault is indicative of weakness of the hind limbs, and causes undue wear of them.

THE THIGHS

Many heavy horses are deficient in muscle at the thighs. This defect impairs the powers of a draft horse to a greater or less extent. The thighs should be furnished with as much muscle as possible both on the inside and outside. If a horse appears to be "split up" between the thighs when viewed from behind, it is a certain sign that he is deficient in muscular development at this point. A "split up" condition between the thighs is therefore a most objectionable feature in the heavy draft horse. This fault unfortunately very often receives no attention, being looked upon as an immaterial one; it is, however, a grave defect which the breeder should carefully avoid.

W. R. GILBERT.

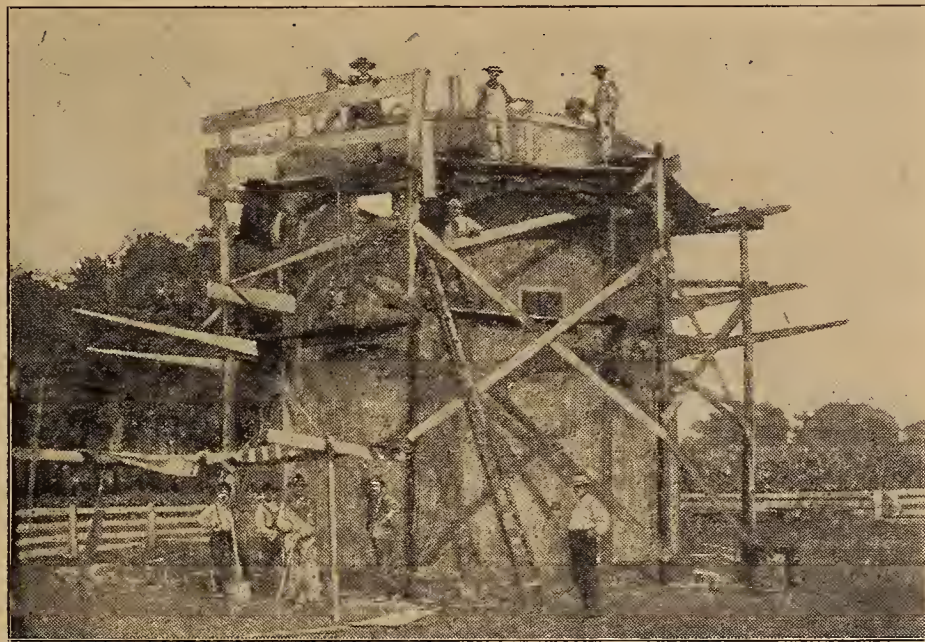
IMPROVING THE DAIRY

The tree knows its fruit and drops the unsound. Even a squirrel takes no stock in unsound nuts, and rats desert a sinking ship. Yet a man who has no rule of instinct should use his God-given faculties and rid himself of his cows that are not producing one hundred and fifty pounds of butter a year.

Our dairy cows as a rule are not as good milkers as we desire, and it is certain that they may be improved.

There are many dairies which are so far improved as to be satisfactory to their owners, yielding all of the dairy products that could be reasonably expected or required.

We find in almost all dairies some choice cows which produce a large quantity of good milk, far beyond the average of the dairy, although they receive the same care and feed with the other cows



CONCRETE SILO ON AN ILLINOIS DAIRY FARM

The picture was taken while the men were making the last fill of concrete. The silo is 28 feet 6 inches deep by 22 feet 6 inches in diameter, inside measurements. The wall is 6 inches thick all the way from top to bottom, re-enforced in every fill by woven-wire fencing. The form was made of 4 foot 2x8-inch pieces. One fill was made each day!

in the herd. We also find in the same herds some good-for-nothing scrubs which do not pay for half their feed at present prices. These are what are called pensioners, that are living on the charity of the others and their owner. All dairymen know that a good cow is better than a poor one, but all do not appreciate the difference.

Can our dairy stock be so improved that it will be more profitable without extra care and feed?

At a very early date the Dutch or Hollanders were facing the same problem. They adapted a system of improvement for their dairy stock, by breeding from their best milking families, and the justly celebrated Holsteins resulted from their well-directed efforts.

The Jerseys, Guernseys and Ayrshires are also the results of long-continued and careful breeding for certain specific objects. In the Jerseys and Guernseys the richness of milk, and in the Ayrshires a large yield, were secured to an almost absolute certainty.

The wonderful success attained in breeding Shorthorns for beef shows us what may be accomplished in breeding with equal care for milk. The reward of breeding for a purpose is not shown in cattle alone. In all our domestic animals can be seen the result of careful and judicious breeding.

One Month Trial Allowed

Every Columbus Buggy is shipped subject to this test—sold straight from factory to you at manufacturers' prices. If not found as represented—and satisfactory in every way—buggy can be returned—all freight charges will be borne by us—and all money paid cheerfully refunded. Long-time guarantee given on every vehicle. COLUMBUS—on a Buggy—stands for quality the world over—highest quality possible to obtain in a vehicle—and being now sold direct from factory saves the big dealers' profits to the user.

COLUMBUS BUGGIES

THE TRADE MARK BRAND

2 Year Guarantee

On Every Columbus Vehicle

Send for Special Sheet of Columbus Buggy Bargains now ready. Sent Free, with catalogue and other literature. Columbus Quality the highest—Columbus Direct Prices the Lowest.

THE COLUMBUS CARRIAGE & HARNESS CO.
2031 So. High St., Columbus, Ohio

The greatest improvement may be made in a short time and at the least expense by using with our ordinary cows a bull of that breed best adapted to our respective farms. For instance, had I a farm possessing all the requisites for a butter dairy, I would use a pure-bred Jersey or Guernsey bull and raise the calves from those cows that would produce the greatest amount of butter fat, irrespective of the quantity of milk.

If, on the other hand, the production of milk was my only object, and this to be sold in any one of our cities, where pure, rich milk is a stranger and regarded with suspicion, if not disgust, I would cross with an Ayrshire or Holstein bull from the best milking families obtainable. Both of these breeds are valuable for cheese dairies and are also excellent milkers.

The Ayrshires are not excelled in their ability to attain a living on rough land, where they have to travel long distances to obtain their feed. On pastures that are gently undulating, and the herd not compelled to travel long distances to obtain their feed, I would prefer to cross with Holsteins to any breed of which I know.

If I desired a dual-purpose dairy I would use a Red Polled bull, for the Red Polled grades if judiciously bred and kept on lands suited to their condition will in my opinion produce the greatest amount of milk, butter, cheese and beef for the food consumed of any grades or pure breeds living.

MINERAL HEAVE REMEDY

CURES HEAVES

Neglect Will Ruin Your Horse

Send today for only Permanent CURE Safe-Certain

\$3 PACKAGE will cure any case or money refunded
\$1 PACKAGE cures ordinary cases. Postpaid on receipt of price. Agents wanted. Write for descriptive booklet.

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GRAIN and FERTILIZER DRILL

The YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No complex gearing to get out of order. Boxes are close to ground. Easily regulated quantity of seed or fertilizer. AWARD-ED GOLD MEDAL St. Louis World's Fair. Weight, Only 760 lbs. Agents Wanted. Write for catalogue.

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HAY PRESSES

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The Alligator 6% Int. on \$13687.50
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ABSORBINE

Cures Strained Puffy Ankles, Lymphangitis, Bruises and Swellings, Lameness and Allays Pain Quickly without Blistering, removing the hair, or laying the horse up. Pleasant to use. \$2.00 per bottle, delivered with full directions. Book 5-C, free.

ABSORBINE, JR., for mankind, \$1.00 Bottle. Cures Strains, Gout, Varicose Veins, Varicocele, Hydrocele, Prostatitis, kills pain.

W. F. YOUNG, P. O. F., 23 Monmouth St., Springfield, Mass.

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from 1 to 10 horse, Steam and Gasoline Engines, mounted and Stationary, 1, 2 and 3 H. Tread Powers, 2 to 8 Horse Sweep Powers, Hand and Power Corn Shellers, Feed and Ensilage Cutters, Wood Saws, Steel and Wood Land Rollers.

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Own Your Own Scales

Est. 1885

and avoid loss and disputes. We sell all kinds: Portable, Pit, Platform, Steel and Cement construction. Catalogue free.

OSGOOD SCALE CO., 165 Central St., Binghamton, N. Y.

HELP WANTED

Truck Farmers at Waycross, Ga. Where you can have something out of the garden every day in the year. Good local market, and best of shipping facilities. Healthy Location. Good opportunity for a Southern Home. Address A. B. COE, Sec'y.

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with Tobacco Manufacturer now open. Good pay and promotion. If industrious and energetic experience is not necessary.

DANVILLE TOBACCO CO., Box D-24, Danville, Va.

We Are Paying

Agents most liberally as a regular feature of our large business. You will be similarly treated, even though inexperienced, and will be given the choice of three different plans of working. We always prepay transportation charges. Write for details showing exactly how hundreds of gentlemen and ladies are making steady incomes of \$75 to \$160 a month, and say whether you wish city or country territory. Address

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Department C., Madison Square, NEW YORK CITY.

W. M. KELLY.

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The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a renewal. If all our subscribers will do this a great deal of trouble will be avoided.



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ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

WE MUST not get the idea that there is nothing but work on a farm. Our work would be much better done if we refreshed our bodies and minds once in a while with recreation and social intercourse. Country life is the ideal life. Are you making it the life worth living or a constant drudge?

This is the vacation season. Don't think because it is the busy season for you that you can't take a single day off. You don't have to work at high tension every day of the summer. And besides, how about your wife and children?—Are you going to sacrifice their health and happiness to your work? Remember that your wife's work is much more confining and trying than yours, especially if there are children in the family. She doesn't get half the fresh air or one fourth the intercourse among friends that you do. Maybe you don't need a rest, but she does. You don't have to go away from home for a week to give her a rest, either. Just take a day off and go with your family to some near-by stream, where the overhanging trees give plenty of shade. Let the children wade in the creek or pick wild flowers or frolic in the grass and woods while you and your wife, free from all the ordinary cares, recline under the friendly shade of some near-by tree, to just rest and breathe in the pure, fresh air.

Of course you read the résumé of President Roosevelt's speech at Lansing, Michigan, which was printed in the June 25th issue of FARM AND FIRESIDE. Did you notice what he said about crops? It was this: "The best crop is the crop of children; the best products of the farm are the men and women raised thereon."

That sounds peculiar at first because it is such an unusual point of view, but nevertheless nothing truer was ever spoken. The bone and sinew of America to-day, in politics, in business, in the professions, is the crop of farm boys of a generation ago. In New York City, the most populous city in the country, where work under a high pressure is a necessity, the men who a generation ago were on the farm are the ones who stand out pre-eminent in positions of trust and authority.

In every walk of life, in every city, in every town, are found men who are leaders, and who not many years ago were boys on the farm. The strenuous life and work under high tension have no terrors for them. Their early life in the country, breathing pure air and living in the open, has given them bodies and brains that make them winners in the race of life.

What a pity it is from the farmer's point of view that these fine men were lost to the farm. The farms of America need just such men. We cannot afford to let our best brain and muscle go to the cities. Agriculture is the grandest, noblest business in the world. It ought to get the very best men.

The lack of social intercourse is the very greatest drawback to farm life. In fact, it is the only real drawback. It has sent more farm boys to the city than anything else. There is no use patting ourselves on the back, and saying, "The farm is all right, just the same." We must recognize the handicap, look it squarely in the face and make up our minds to overcome it.

Rural free delivery and telephones have done much to broaden our social life, but the improvement has only started. The real benefit must come from our schools and churches. Our children must be better educated, must attend school longer and must have teachers who recognize the importance of social intercourse among families in the country. Our churches must take hold, too, and develop their social side as well as their spiritual. There must be a revival of that interest in neighbors and friends that our ancestors had years ago, when cities were villages and nearly every one lived in the country. In those good old days country people called on each other and entertained often.

THE JAIL CURE

The placing of heavy fines on lawless corporations is not enough to make them law-abiding. Practically being monopolies they collect the fines from their customers by an arbitrary advance in prices, and proceed on the even tenor of their criminal ways. A ten-dollar fine for stealing a hundred-dollar horse will not break up horse stealing. That's why the thief is sent to jail.

In his Fourth of July address at the Jamestown Exposition, President Woodrow Wilson of Princeton University prescribes a dose of the same remedy for the heads of lawless corporations. He said:

"One really responsible man in jail, one real originator of the schemes and trans-actions which are contrary to the public interest legally lodged in the penitentiary, would be worth more than a thousand corporations mulcted in fines, if the reform is to be genuine and permanent."

"Every corporation is personally directed either by some one dominant man or by some group of persons. Somebody in particular is responsible for ordering or sanctioning every illegal act committed by its agents or officers; but neither our law of personal damage nor our criminal law has sought to seek out the responsible persons and hold them accountable for the acts complained of. We have never attempted such statutes. We indict corporations themselves, find them guilty of illegal practices, fine them, and leave the individuals who devise and execute the illegal acts free to discover new evasions."

"It is only in this way that we can escape socialism. Unless we can single out the individual again and make him once more the subject and object of law, we shall have to travel still further upon the road of government regulation which we have already traveled so far, and that road leads to state ownership."

PRACTICAL EDUCATION FOR FARMERS

In the "Review of Reviews" for August is an interesting article by Frank W. Bicknell, entitled "The Farmer's Debt to Science," from which we take the following:

"To farm with the head; to realize that no farmer can succeed by mere brute strength, and that drudgery is labor without thought—these are the ideas that have become firmly lodged in the heads of the farmers of Iowa. Many thousands of them gratefully acknowledge their debt to Professors Curtiss, Holden, Craig and Kennedy and their associates for helping them to a better understanding of the difference between success and failure in the farm business."

"Iowa, with half of her population of 2,250,000 directly engaged in agriculture, and the rest mostly dependent upon it, has led the world in originating effective methods for carrying the message of the new agriculture directly to the farms, and for making good the prediction of the Secretary of Agriculture, himself an Iowan, that there will be no more serious crop failures. In four notable ways, started in this state, have the most advanced and practical scientific methods of farming and stock raising secured immediate and general adoption by practical farmers of varied experience. These four great movements came in this order:

- (1) The 'short course' in stock judging, started at the State Agricultural College at Ames in 1899, and now developed into other lines and adopted by other states.
- (2) The local agricultural experiment stations on the county poor farms, begun in 1903, and 'destined to go around the world.'
- (3) The seed-corn special trains, started in 1904, which in three seasons covered eleven thousand miles of railway and brought audiences of farmers aggregating 150,000 to learn the importance of a better selection of seed corn, care in testing before planting, and other facts that have increased the average yield of the state by one third in three years.
- (4) The Department of Agricultural Extension in the State Agricultural College, started in 1906, liberally supported by the state, giving

practical aid to every seeker for information concerning animal husbandry, farm crops, soils, dairying, horticulture and domestic science.

"Thirty years ago, with land worth eight to twenty dollars an acre, a farmer could not afford to be as careful as he must be to-day, when the same land is worth from seventy-five to one hundred and fifty dollars an acre. There must be better farming in the Middle West. Those who want cheap lands to quickly skim off the cream of fertility must go west and northwest."

THE FIRST "SHORT COURSES" IN AMERICA

"Ten years ago Prof. Charles F. Curtiss, succeeding James Wilson, now Secretary of Agriculture, as dean of the Division of Agriculture in the Iowa State College of Agriculture and the Mechanic Arts, saw that his greatest problem was to get closer to experienced farmers. Only a few hundred could be regularly graduated from the college each year, and most of these were eagerly sought by corporations, to manage creameries, big farms, etc., and as teachers. To show the greatest number of farmers how to make better use of their opportunities Professor Curtiss took the first step of those rapidly succeeding movements that have given Iowa her leadership in agricultural education."

"The first of the famous 'short courses' was announced at the college in Ames for the first two weeks of January, 1899. It was open to all the world, without restrictions as to age or qualifications, with very low tuition. About two hundred and fifty men, many of them successful stock breeders, not only from Iowa, but from many other states, came to this novel school, the first of its kind in the United States. Prof. John A. Craig, then professor of animal husbandry, was in immediate charge, and he is entitled to rank as the pioneer in putting live-stock teaching in good pedagogic form."

"The work of the 'short course' has been extended, until it now includes corn and grain judging, dairying, horticulture and domestic science. The attendance reaches about eight hundred and includes many who have spent their lives in successful agriculture. Quite a number bring their wives for the domestic-science course, which is also intensely practical. Every section of the country, from Canada to Texas, from Pennsylvania to the Pacific Coast, sent students last January."

THE DEPARTMENT OF AGRICULTURAL EXTENSION

"During the year 1905 the agronomy department of the Agricultural College, of which Prof. P. G. Holden was the head, received over thirty-seven thousand letters asking for lectures, information or help of some kind. To satisfy this desire for information the legislature established the Department of Agricultural Extension at the college. The department is a part of the division under Dean Curtiss, and Professor Holden is superintendent. More than sixteen hundred requests for lecturers at farmers' institutes, picnics, county fairs, agricultural clubs, 'short courses,' schools, etc., came to the department during its first year, but only about one fourth of them could be satisfied. More than twenty-five 'short courses' have been asked for this year. The first year's appropriation of \$15,000 has been increased to \$27,000, and this year more lectures will be given, and a well-sustained six-day 'short course' will be given in each quarter of the state, and as many more as possible. The correspondence of the department is enormous."

THE COUNTY EXPERIMENT STATIONS

"One of the most effective agencies in carrying the message of the better agriculture out to the farms is the local experiment station on the county poor farm, also an Iowa idea. The first one was established in Sioux County, in the remote northwestern part of the state, in 1903. The County Board of Supervisors appropriated three hundred dollars, and the work, chiefly experiments in corn growing, was carried out under the direction

of Professor Holden's department at the college, which supervises all the county stations. . . . A dozen or more counties scattered over the state have followed the plan started in Sioux County, and more will do so this year. The influence of these county experiment stations has been immediately noticeable not only on the corn crop, but in raising the standard of farming in every way."

THE SEED-CORN SPECIAL TRAINS

"The most widely known feature of this work that has given Iowa her leadership in the rapid dissemination and quick and effective application of improved methods in agriculture was the seed-corn special trains, started in 1904 by Professor Holden, with the co-operation of the railways of the state. During the spring seasons of 1904, 1905 and 1906 these educational trains traveled over 11,000 miles, made 789 stops and more than 150,000 people heard 1,265 lectures, sometimes in a large passenger car, carried for the purpose, sometimes on the station platform, and occasionally in a hall. The trains were run on regular schedules and good audiences were always waiting."

"The points emphasized in the lectures were:

- (1) The low average of thirty-one bushels an acre over the state, while many farmers were producing sixty to seventy bushels an acre.
- (2) The poor stand, due to poor seed, uneven dropping of seed by the planter, and poor preparation of the seed bed.
- (3) Planting unsuitable varieties, and also corn which has deteriorated under unfavorable conditions.
- (4) What the farmer himself can do toward improving his corn by selection and breeding, with emphasis on the imperative necessity of careful selection and testing of seed, accompanied by simple directions for doing it.

A HUNDRED BUSHELS AN ACRE

"Professor Holden figures out with startling clearness to the corn grower what his certain profits will be, what astonishing gains will come to him, from ordinary care."

"It is customary to plant corn," he says, "in hills three and one half feet apart each way, three kernels in a hill. Fair land will with ordinary care produce a good ear on at least two stalks in every hill, and should produce three ears. There are 3,556 hills to the acre, so there should be 10,668 stalks. One twelve-ounce ear to the hill makes thirty-eight bushels an acre; an eight-ounce ear to the hill makes 25.5 bushels an acre. So you see two twelve-ounce ears would give seventy-six bushels to the acre, and if you add an eight-ounce nubbins there are over one hundred bushels. Good corn growers, who give proper care to the selection and testing of their seed, the preparation of the ground and the cultivation, will have a large percentage of sixteen-ounce ears, few small ones, and very few hills with less than two good ears. One hundred bushels an acre is neither impracticable nor difficult."

THE COLLEGE ITSELF, AND ITS METHODS

"During the last four years the Department of Animal Husbandry in the college at Ames has furnished thirty men to the faculties of twenty different agricultural colleges, and now has applications from other states. The enrollment in the regular collegiate course in agriculture is larger than in any other agricultural college in the United States. The animal husbandry department has carried on extension work for several years on its own account."

"The beginning of the 'short course' idea was the ten weeks' 'short course' in dairying, established in Wisconsin and Iowa about 1890. . . . A correspondence school and a summer school are being planned, to further extend the usefulness of the institution. It is advertised by the results it shows and by the fame of its men. Dean Curtiss has been for years recognized as one of the most eminent authorities on live stock in America, and the feeding and breeding experiments he has carried on have been as notable in practical results as the corn experiments by Professor Holden."

Down Summer Ways

BY ALONZO RICE

Green fields, an orchard red, under a blue sky,
Unite to form a picture that is pleasing to the eye;
I do not wander, brush in hand, in quest of color schemes—
This sweetest revelation daily dawns upon my dreams!

The toiler down the city ways would give his gold to buy
Green fields, an orchard red, under a blue sky;
This rapture brightly rises nightly drenched in crystal dews,
As fair to me as are the scenes the Orient traveler views!

And without money, without price! I stem no stormy seas
For fruit as fair and golden as graced glad Hesperides;
Green fields, an orchard red, under a blue sky,
The Golden Fleece, the Cloth of Gold, these splendors all outvie!

A glad wind runs in riot over quiet clover fields,
Then with a breath of Araby from out the orchard steals;
Oh, pleasures, measures of delight! The sad soul can but cry,
"Green fields, an orchard red, under a blue sky!"

Memories of an Old Mill

BY MORRIS WADE

HERE comes to me to-night, like the sound of a far-away melody, the soft rumbling of the millstones in my grandfather's old mill on the banks of a little stream in a Western state. All the farmer folk for miles around used to come to the old mill with their grain to be ground into "breadstuff," but it is many a day since the millstones went round, and the hoppers have long been empty. But there are times when I seem to hear the murmur of the mill with almost startling distinctness, and if I close my eyes I can see Old Ben, the miller, going about floury and white, with his miller's cap on his head. Like most millers of the olden time, Old Ben was good natured and much given to garrulity. But his good nature found its limitations when I meddled with the wheat after it had once gone into the hopper. We children who were wont to frequent the mill might extract all the wheat we wanted to chew into "gum" from bags and bins before Ben's eyes, but woe betide us if we "went to fooling" with the wheat in the hopper. And just because it was forbidden us we felt that this was the only wheat in the mill that would make good "gum," and we ran the risk of having Old Ben chase us from the mill by "hooking" the wheat from the hopper. I remember that there was a curious superstition prevalent in the rural neighborhood surrounding the little mill town in which my grandfather's mill was located. It was popularly believed that any one afflicted with the whooping cough would be greatly benefited if taken to the mill and shaken in the hopper, and I have a very distinct recollection of babies, and even large boys and girls being brought to the mill and shaken in the hopper to rid them of whooping cough.

Old Ben was not in harmony with this belief and he used to call the process of shaking the afflicted children in the hopper the "biggest Tom fool performance on earth," but he had instructions from my grandfather not to refuse to allow children to be shaken in the hopper. We children used to witness this performance with awe, because we supposed that there was more or less danger of the patient being drawn down between the millstones and instantly reduced to pulp. Some of the patients themselves seemed to feel that this danger was imminent, for they screeched lustily while in the hopper which was to Old Ben a sacred receptacle.

The mill was in the center of a magnificent wheat-producing country, and it was the largest mill in the county. Farmers came from such long distances to have their wheat ground that they could not return the same day, and sometimes there would be half a dozen wagons around the mill at night with their drivers camped under the trees, or if the weather was bad they slept in the mill. I remember that grandfather would always send out hot coffee from his own house to these patrons of his, so there was general good feeling all around. Sometimes the mill would run all night, and I would go to sleep with the pleasant sound of its millstones in my ears. Often in the "dead

of night" I would awaken and lie in my bed listening to that soft, low, rumbling sound, and I would wonder what Old Ben was doing.

There was a cooper's shop in connection with the old mill, and here three or four elderly coopers planed and hammered and shaved barrel staves and set up barrels all day. Sometimes they sang old ballads at their work, and told amazing yarns to us children. The cooper's shop was a pleasant place on rainy days, and we used to tumble about in the shavings or hide in the barrels. Modern methods of milling are very unlike those

in vogue in the old days, and it seems to me that I have never in my later years tasted bread quite so sweet and nutty as that made from the flour ground between the stones of that old mill. But life was full of the high hopes and harmonies of youth then, and the joy of life was great. It is great still, but it is not the joy of a happy-go-lucky boy at play in and around his grandfather's old mill.

What delightful hiding places and romping places there were in and around the old mill! There was nothing but grain bins and old rubbish up on the top floor. We could play "hide and seek" for hours without hiding twice in the same place, and I remember that we used to play some kind of a marching game in which we sang:

"Oh, happy is the miller who lives by himself,
As the wheel goes round he gathers in his wealth,
One hand in the hopper and the other in the bag,
As the wheel goes round he cries out 'grab!'"

There was always one odd boy in this game, and at the word "grab" every boy had to change partners, which gave this odd boy a chance to "grab" some other boy's partner.

Then we played another old game called "The Weevily Wheat," in which, I remember, we sang this doggerel rhyme:

"I wont have any of your weevily wheat,
I wont have any of your barley,
But I must have the best of wheat
To make a cake for Charley;

For Charley he's a nice young lad,
And Charley he's a dandy,
And Charley he's the very lad
Who drank his daddy's brandy."

These and a whole lot of other games made life truly worth living, and I never think of it, but that I wish myself back, back in granddaddy's dear old mill.

AROUND the FIRESIDE



The Ceremonious Queen

BY MANTON MARLOW

IT HAS sometimes been said that Queen Alexandra of England was less punctilious regarding court ceremonials than was her immediate predecessor, Queen Victoria, and that she cares less for the wearing of royal robes. But the real fact is that England has never had a queen who is a greater stickler for the strict observance of court ceremonials than is the beautiful Queen Alexandra, and some of her recent photographs show her gowned in splendor equal to that of the Queen of Sheba in her "Sunday best." It was thought that when Queen Alexandra came to the throne she would be a little lax in the observance of Queen Victoria's unalterable rule not to receive divorced women at court; but Queen Alexandra seems disposed to follow the customs of her royal and departed mother-in-law, much to the disgust of a number of rich and fashionable American ladies who have not been received at court because of the multiplicity of their living husbands. The woman who is simply separated from her husband may be received at court, but if she is a divorcee the unpleasant word "ineligible" must be written opposite her name and she may not make her bow before the queen on a "drawing-room day." It was thought that King Edward would use his royal authority to set aside the rule of his mother in regard to divorcees appearing at court; but if he has tried to do so he has found his queen inexorable on this point, and the women of England are heartily commending her for the position she has taken, particularly as they think the American divorcee is already too prominent in English "best society."

Queen Alexandra may like simplicity of dress when she is not in the public eye, but when she feels that the occasion demands it she can almost equal her niece, the Czarina of Russia, in the magnificence of her costumes. She is a great stickler for the sweeping train, and the most gorgeous of her trains is eighteen feet long, while court etiquette absolutely demands that ladies presented at court must drag four or five yards of silk or satin or velvet behind them. No woman in a short dress or wearing even a demi-train would ever be presented at court. When the Duchess of Buccleuch was presented at court her enormous train and her jewels were so cumbersome that she had to be lifted bodily out of her carriage and supported to the door of the drawing room, when

she managed to stagger along alone, dragging yards and yards of stiff brocade behind her. "Costly thy raiment as thy purse can buy" is the established rule when one is to be presented at court.

When in the height and fulness of her royal splendor Queen Alexandra presents a dazzling appearance. Her crown has in it a total number of 3,688 precious stones, and in the center is the great Kohinoor diamond. Numerous as are the stones in her crown, it weighs but twenty-two ounces. It is only when appearing in her official capacity that the queen wears eighteen feet of train. This train, hung from her shoulders, is carried by pages.

Although her majesty is extremely fond of racing, and she must be well aware of the fact that there is a great deal of betting at the races, she will not tolerate in her suite any lady who plays cards for money.

Frontier Life on Kansas Plains

BY PEARL CHENOWETH

WE ARE accustomed to hearing a good deal of the hardships and the privations of pioneer life, and perhaps many have never heard of the side that is bright, pathetic, noble or cheering.

A father who labored incessantly to support a growing family hired out his two oldest sons, aged eleven and twelve, to herd cattle for his neighbors—men who had brought money with them when they braved the frontier. Each son was to receive the magnificent sum of six dollars a month, and each was to go home on Saturday nights.

One Saturday night, when the boys met at the family hearth, they saw that the father was downhearted and discouraged. One of the two oxen, which was the only team they possessed, had died suddenly; hot winds had burned up the growing crops; money there must be for food and clothing, but where was it to come from?

After the children had retired the faithful wife and mother sought to comfort the tired and disheartened man.

"Next week our boys' wages will be due, and—"

But the sentence was not finished. The father interrupted. "No, dear, do not say that. I heard the boys planning how their wages were to go—shoes, overalls and school books."

The younger of the boys overheard the conversation of his parents, and together they planned a happy surprise.

The next Saturday evening the boys hastened home, reaching there just as the sun went down. They slipped cautiously around and came to the house from the north, which was the rear. The father sat on a box in front of the house, pale and tired. The sons stationed themselves on either side of the house, and seeing that the coast was clear, each rolled a silver dollar down the gentle slope until it fell at father's feet. He picked them up and looked around, his listlessness gone and surprise and joy written on every feature. When next his back was turned two more silver dollars traveled the same way. By this time the man's suspicions were aroused, but the money was picked up just as eagerly as before, and keeping the semblance of wonder, the wheels kept coming until there were twelve. The delighted boys could restrain themselves no longer, and hastened to their father. That scene can never be described, but will linger in the memory of the chief participants while life lasts. And who shall say that the joy of it did not outweigh many hardships?

The incident would not be complete did I not tell you that a way soon opened that allowed the boys to enter school. Not until these lads had grown to noble manhood and the father had a comfortable home and a bank account did they tell how they had asked their employers to pay their wages in silver dollars.

In another home there were two small sisters, aged five and seven. After the winter supply of food was purchased there was just one dollar and twenty-five cents left in the family purse, and neither of the little girls had shoes. The mother called the little daughters to her side and told them as much of the situation as she thought best, adding, "Papa says we can buy shoes for one of you. Now which shall it be?"

The older looked thoughtful, but the younger quickly replied, "Get them for sister, 'cause she has to go to school, and I'll learn my lessons right here by the fire."

The older girl is now one of the brightest teachers in the state; the other is a sweet young mother who will teach her children self-sacrifice.



QUEEN ALEXANDRA



GRANDDADDY'S MILL—WHERE THE GRAIN WAS GROUND IN THE OLD DAYS

The High-School Boys and Girls

BY HILDA RICHMOND

IN VERY many homes all over the country are bright boys and girls who will this fall turn their backs on the rural schools to take up new and advanced work in high schools. They are looking forward with mingled delight and fear, for it is to be the entering of a new world to all of them. It is enough to make older people envy them as they eagerly discuss the possibilities of the coming term, for the enthusiasm of youth is a fine thing to possess. It nearly always happens that the country scholars in the town schools far outstrip the city boys and girls, but there are many good reasons for this. In the first place, the country children have had the best chances in regard to health; secondly, they are better fitted for hard work by the soil on the farm, and last, but not least, it is a case of the survival of the fittest. Only the best and brightest country children find their way to the high schools.

If the children are looking forward to the new life with mingled dread and anticipation, the fathers and mothers are also concerned with problems connected with the fitting. There are many things to be settled, many plans to be made and much speculation to be indulged in. No matter how ambitious parents are for their children, they always look forward to any change in the home life with uncertain feelings, and in many homes this is the first important change that has ever overtaken the family.

First of all, the question of where the boys and girls shall stay must be settled. If the home is within driving distance of a good high school, by all means provide the students with a safe horse, and let them come home every night until bitter weather sets in. The home nest is the safest even for trustworthy boys and girls, and for children inclined to be lively and fun loving it is the only really safe place. Usually boys and girls are from thirteen to sixteen—a dangerous age—when they leave the country for the city schools, so it is well to safeguard them as far as possible.

But if coming home every night is out of the question, the next best thing is to place them in a relative's care or with some responsible person. Of course they should not be kept like infants, but should know that certain restrictions would be imposed, just as if they were at home. A great many people consider the question of expense first of all, but that should come after the character of the home in which they are to be placed is settled. A refined, motherly woman can do a great deal with boys and girls away from home for the first time, and it is well to investigate before engaging board for the young students. In every town there are women who must eke out scanty incomes by taking a boarder or two, and many times country parents have made satis-



and daughters about their conduct toward "those stuck up city people," and so prejudice them all the days of their lives. There are country boys and girls in every high school who are always "looking for trouble" simply because their parents have taught them that city people make fun of those in the country. Every word, every look, every sign and every laugh is directed at them, they think, and they are truly miserable unless common sense teaches them to overcome that feeling. There are city people with limited brain capacity who do make fun of country people, but they are not as numerous as some folks would have us think. Teach the boys and girls that truth, friendliness, honesty and common sense will win everywhere, and then let them make their own way unhampered by a lot of unfair ideas.



CROCHET COLLAR

Household Dangers

FRIGHTFUL casualties which are due to the ignorance or carelessness of mistress or maid are almost daily recorded.

A friend of the writer, while scrubbing, threw a nearly empty can of concentrated lye into a boilerful of water over the fire. An explosion followed, the scalding water flew in the lady's face, and she narrowly escaped blindness, being confined to a dark room for many days.

Another acquaintance suffered a trying experience through her ignorance of the science of common things. Wishing to make sirup for breakfast cakes, she placed a tin lard pail containing sugar and water on the stove, fastening the lid on tightly, so that no steam could escape. Of course the cover blew off when the boiling process began. The contents of the pail flew out, and as the woman happened to be bending over the stove, her face was scalded in a frightful manner.

A young lady was recently burned very painfully by the ignition of benzine, with which she was cleaning her gloves. To see more clearly, she stepped under a lighted gas jet. A blaze resulted. The gloves saturated with benzine were on her hands, and a severe burn was the result.

Intelligent people still persist in pouring kerosene on dull fires, notwithstanding the frequent fatal results of such carelessness.

Many women are unaware that the dirty, almost empty lamp is a menace to life. It is in these, not the full lamps, in which gas is generated and the danger of an explosion made imminent.

The gasoline stove is now in almost universal use, and housekeepers say, "There isn't a bit of danger in them if one is careful." But it sometimes happens that one isn't careful, or that one's servants or children lack caution, hence so many reports of death or injury from explosions. Though very convenient, one would better suffer a trifle from heat than risk the danger of explosion where there is a family of children.

The careless handling of drugs is another source of danger.

The writer once swallowed ammonia from a bottle labeled "Cough Remedy." She was nearly strangled by the fumes, and through the struggle to regain her breath, the vocal organs were so injured that she was deprived of speech for many days.

Many housekeepers are not aware of the danger they invite by leaving cans containing fruit, vegetables or meat open for any length of time. The poison thus generated has more than once resulted in violent sickness, and sometimes death.

D. A. H.

The New Wallachian Embroidery

FROM the province of Wallachia, Roumania, comes a new form of embroidery to us, though by no means new to its native home. It is named for its birthplace, and is in reality nothing more nor less than a fanciful method of utilizing our well-known and practical buttonhole stitch. This stitch forms the chief part of the work, all the design being carried out in it, unless we except stems and the like.

The work is illustrated by a pretty little doily in a simple pattern. The buttonholing, as may be seen from the illustration, runs up one side of petal or leaf and down the other, with the purled or heavy edge out. A line is thus formed

down the center by the meeting of the stitches, which serves as a midrib.

Stems are outlined. French knots are sometimes used to fill in the centers of flowers. Disks or rings are quite often used in this work, and are buttonholed right around, setting the stitches closer on the inside than on the outer edge. They may be padded or raised, if liked, although the embroidery as done by the Roumanian peasant women is never padded. However, if padding occurs in the rings or dots, it usually is used in the remainder of the design as well.

While this American touch is not in strict keeping with the European product, yet it certainly detracts nothing from the work, but gives it a richer, heavier appearance.

The foreign designs are quaint in many instances, but hold in the main to floral figures in modified forms, scrolls and disks. The poinsettia, large daisies, fern or rose-leaf sprays are all well adapted to this needlework.

Linen backgrounds are preferable for household linens, and are worked in mercerized floss; but waists are seen of silk or cloth richly embroidered in silk floss. All white or colors are used, just as one fancies. Table linen which must be frequently laundered usually gives greater satisfaction in all white. It also harmonizes better with all kinds of china and flowers, hence is more practical than colors. Centerpieces for between meals, sofa pillows, etc., are of ecru linen in handsome color effects in silk floss.

Wallachian embroidery is seen on many of the new shirt-waist suits, as well as on waists alone, belts, collars and cuffs, belt bags, and the like. The colored linen suits are often embroidered in white or a deeper shade of the same color. The white waists are seldom worked in colors. Eyelet work combines delightfully with the Wallachian, the eyelets taking the place of the buttonhole disks.

The work is so easily mastered, there being no new stitches to acquire, that every one who handles a needle may readily become proficient at it, and the results will certainly well repay one for the labor expended. If good materials are chosen they will wear almost indefinitely, this being one of the most practical features of the work. As an heirloom no class of needlework to-day promises better results.

MAE Y. MAHAFFY.

Knitted Panel Lace

CAST on sixty stitches.

First row—Slip 1, knit 6, narrow, over twice, narrow, knit 6, narrow, over twice, narrow, knit 6, narrow, over, narrow, over, knit 1, over, narrow, over, narrow, knit 6, narrow, over twice, narrow, knit 6, narrow, over, narrow, over, knit 1, over, narrow, knit 1.

Second row—Knit 16, seam 1, knit 24, seam 1, knit 9, seam 1, knit 8.

Third row—Slip 1, knit 25, narrow, over, narrow, over, knit 3, over, narrow, over, narrow, knit 14, narrow, over, narrow, over, knit 3, over, knit 2.

Fourth row—Knit all plain.

Fifth row—Slip 1, knit 24, narrow, over, narrow, over, knit 5, over, narrow, over, narrow, knit 12, narrow, over, narrow, over, knit 5, over, knit 2.

Sixth row—Knit all plain.

Seventh row—Slip 1, knit 2, (over, narrow) ten times, over, knit 3 together, over, narrow, over, knit 7, (over, narrow) nine times, over, knit 7, over, knit 2.

Eighth row—Knit all plain.

Ninth row—Slip 1, knit 24, over, narrow, over, narrow, knit 5, narrow, over, narrow, over, narrow, knit 11, over, narrow, over, narrow, knit 5, narrow, over, knit 2.

Tenth row—Knit all plain.

Eleventh row—Slip 1, knit 25, over, narrow, over, narrow, knit 3, narrow, over, narrow, over, knit 14, over, narrow, over, narrow, knit 3, narrow, over, narrow, knit 1.

Twelfth row—Knit all plain.

Thirteenth row—Slip 1, knit 6, narrow, over twice, narrow, knit 6, over, narrow, over, narrow, knit 1, narrow, over, narrow, over, narrow, over, knit 6, narrow, over, narrow, knit 1, narrow, over, narrow, knit 1.

Fourteenth row—Knit 17, seam 1, knit 24, seam 1, knit 9, seam 1, knit 8.

Fifteenth row—Slip 1, knit 4, narrow,

over twice, narrow, narrow, over twice, narrow, knit 2, narrow, over twice, narrow, narrow, over twice, narrow, knit 5, over, narrow, over, knit 3 together, over, narrow, over, knit 5, narrow, over twice, narrow, narrow, over twice, narrow, knit 5, over, narrow, over, knit 3, together over, narrow, knit 1.

Sixteenth row—Knit 14, seam 1, knit 3, seam 1, knit 20, seam 1, knit 3, seam 1, knit 5, seam 1, knit 3, seam 1, knit 6.

Repeat from first row.

ELMA IONA LOCKE.

Crochet Collar

THIS pretty collar may be worked with silk or cotton thread, and can be made wider if desired, by adding a 3 chain and a shell.

Chain 16 stitches.

First row—Make a shell of 3 tr, 2 ch, 3 tr, in fourth st from hook, * ch 3 miss 3, a shell in next; repeat from * twice, ch 3, turn.

Second row—Shell in shell, * 5 tr under 3 ch, shell in shell; repeat from * twice, ch 3, turn.

Third row—Shell in shell, * ch 3, shell in shell; repeat from * twice, ch 3, turn. Repeat from second row to length desired.

Start the tab by tying the thread in the second point from the center point of the strip. Make a shell of 3 tr, 2 ch, 3 tr, in point you fastened thread in, work another shell in next point, 3 ch, make 13 tr in next point, 3 ch, then a shell in following point and a shell in next point, 3 ch, turn. In next row make a shell in each of the two shells, 3 ch, 1 d c, between first and second tr of previous row, 3 ch, 1 d c, between second and third tr, so continue until you have 11 small loops, 3 ch, then a shell in each of the next two shells, 3 ch, turn. In this row make two shells, 3 ch, 10 small loops over the 11 loops, 3 ch, two shells, 3 ch, turn.

Proceed in this manner until the center d cs narrow to a point.

Finish with ribbon and bows. It is well to have the ribbon match the dress with which the collar is worn.

MRS. J. R. MACKINTOSH.

Some Unusual Pies

ICE CREAM PIE—Line two deep pie tins with good paste, prick them well, and bake them in a good oven. Make a filling with one quart of milk, the yolks of two eggs, two tablespoonfuls of cornstarch, a pinch of salt and two cupfuls of white sugar. Dissolve the cornstarch in a little of the milk and bring the remainder of it to the boiling point; stir in the cornstarch, and cook and stir until it is like thick cream; add the yolks of the eggs beaten with the sugar, and stir a minute or two longer. Flavor with one teaspoonful of vanilla, and turn into the pastry-lined pie tins. Whip the whites of the eggs to a



WALLACHIAN EMBROIDERY

factory arrangements by furnishing lard, flour, wood and such products in exchange for a home for the high-school students during the school term.

Clothes, too, play an important part in the new life. By all means dress the boys and girls modestly and as well as you can afford, so they will not be handicapped by being awkward and out of place. It is just as easy to select a pretty brown dress, with hat and jacket to match, if brown is becoming to the young girl who is to enter high school, as it is to buy haphazard and send a self-conscious, shrinking girl away in a green dress, blue jacket and hat trimmed in red. Buy intelligently and stick to simple things. One well-made, pretty school dress is worth half a dozen flimsy silk waists and bright skirts. The boys should also be provided with neat suits. It is all very well to say a good student is above such considerations. Every person feels better and behaves better to be neatly and becomingly dressed, and children are especially sensitive about what they wear.

Not the least consideration is the kind of ideals you send with the boys and girls as they start in their new world. I have known parents to admonish their sons



KNITTED PANEL LACE

stiff snow with three tablespoonfuls of sugar, spread it over the tops of the pies, and return to the oven to brown very slowly and delicately. Serve very cold.

ECONOMICAL CREAM PIE—Beat together the whites of two eggs, one cupful of white sugar, two tablespoonfuls of flour and a tiny pinch of salt; then add two cupfuls of rich sweet milk, and fill into two pie tins lined with good pastry. When baked, grate nutmeg over the top.

COCONUT PIE—Make the filling with one pint of milk, one cupful of granulated sugar one cupful of desiccated coconut, and the beaten yolks of three eggs. Pour into a pie dish lined with good crust, and bake. Beat the whites of the eggs to a stiff froth with three tablespoonfuls of sugar, spread over the pie, and brown.

PINEAPPLE PIE—Beat one cupful of granulated sugar and one half cupful of butter to a cream, add the beaten yolks of five eggs, two cupfuls of grated pineapple, one cupful of sweet cream, and lastly the stiffly whipped whites of the eggs. Bake without upper crust in a moderate oven. MARY FOSTER SNIDER.



How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

A Country Girl's Advantages

BY KITTIE TURNER

THERE seems to be any number of misguided people on this old world of ours who in some unaccountable way have possessed themselves of the idea that when a country girl is grown she has just two alternatives—to get married, or go to town for employment—that there is no way in which she can be independent and yet remain in her farm home.

For the disillusionment of these individuals, and also as a hint to other country girls who would like spending money of their own, but have not as yet discovered how easily they may obtain it, I want to tell how I not only supply all my needs, but have a nice little sum at interest in my own name.

When I recall my small beginning, I am reminded of the little ditty we all spoke as our first piece at school,

Little drops of water,
Little grains of sand,
Make the mighty ocean
And the pleasant land.

But, after all, it is the little things that make up the sum of life, and there were never truer sayings than those which tell us that "A penny saved is two earned," and that if we "Take care of the dimes the dollars will take care of themselves."

Our family all being great flower lovers, our yard and garden is a blaze of glory from earliest summer until frost lays the blossoms low. And the first money I ever earned outside my home was from a hotel keeper who was passing our place one day in summer, and seeing what a variety and abundance of the old-fashioned flowers we had, asked me if I couldn't supply him with flowers for his tables whenever we should be going into town, which we always do on Saturdays, and often once through the week. He offered me five cents apiece for each bouquet of quite modest size, just suitable for a table vase. From the wealth of blossoms that were constantly going to waste there was no reason why I should not gladly accept his offer, and no sooner did I realize what an easy way it was of getting spending money for myself than it occurred to me that the other hotels and the restaurants would probably be glad to get the flowers at the same rate, particularly on Saturdays for the Sunday tables.

Inquiry of the proprietors developed the fact that I could readily dispose of all the flowers I had, and that it would pay me to drive in on Wednesdays purposely to take them when there was no other errand to call us in. I felt that I was just "finding money," about a dollar every Wednesday, and twice as much on Saturdays.

And never since the first summer have I made less than seventy-five dollars from my flowers, just the old-fashioned favorites, sold at five cents a bunch, from the earliest ones of spring to the chrysanthemums and other late bloomers of autumn, with wild roses, sweet peas and a dozen other varieties of wild flowers.

My next venture may seem as insignificant as the first, but I had not been supplying the hotels and restaurants with flowers very long until I thought of supplying them with horseradish as well. We have an immense bed of it on our farm—you know that it is something that once started just spreads and spreads and is next to impossible to get rid of. And it is so easy to start, too—just the tiniest scrap of root put in the ground anywhere will go on growing and throwing off branch roots, and as one never can get the last end of the roots in digging, it never has to be planted again. Well, I was glad we had a big bed of it, for I found I could sell all I could bring into the groceries as well as to my first customers, the hotels. The food grinder made quick work of its preparation, and spared me many tears that I would needs have shed had I tried to grate it.

[TO BE CONTINUED NEXT ISSUE]

Canned Stuffs

I MAKE quite a little sum of money every summer by selling canned vegetables—green peas, string beans and corn—to my friends in town. This plan meets with quite a demand, for every year they give me their cans to fill before the vegetables are ready for use.

MRS. GEORGE CRISSEY, Michigan.

Poultry and Cows

I WILL tell you how I make a living for myself and three children. First, I kept thirty-five nice Plymouth Rock pullets and three roosters; sold \$30 worth of eggs, \$20 worth of frying-size roosters, and kept one hundred hens for hatching this year. Next I bought one bronze gobbler and two turkey hens. From them I raised twenty-five fine young turks; sold them to a poultry buyer at Thanksgiving, and they brought me \$32. I took fifty young frying-size turks from a neighbor to raise for a third of the profit. My part of it was \$18. I milked two cows and sold one hundred and seventy pounds of butter. Had it engaged the year round at twenty cents a pound. It brought me \$34. My brother-in-law had a large wheat field near us, and got me to cook for part of his harvest hands. I cooked for them three weeks, and he paid me \$20 for my work. There was a large cotton patch near my house, and I would run out and pick cotton every spare minute. I never kept account of what it all amounted to, but know it paid well. Am working on almost the same plan this year. Have already made over \$100. I think there is more money in poultry and cows for a woman on a farm than anything else when they are managed right.

MRS. J. D. ALLISON, Texas.

Strawberries Profitable

WE LIVE three miles from a thriving little city, and one season I sold right at home twenty dollars' worth of strawberries from a small patch in the garden. Will state that this was an exceptionally good season for strawberries and my vines at their best. I simply put up a sign, "Strawberries for Sale, Ten Cents a Quart." These were the small berries; all the large ones were picked out, and twelve and one half cents asked for them. I procured some pasteboard boxes from stores to put them in, and measured them in a large dipper. Any one who bought once came again and told others, until I could not supply all who wished them. The children helped to pick them, and though we were very busy for five weeks, it certainly paid. My family had all they could eat during that time, three times a day, and I canned twenty-five quarts.

Another way I have earned ten dollars a season is to dry all kinds of fruits, which sell readily at the grocery store where we trade. I procured a paring machine for seventy-five cents, which pares, cores and slices apples and pears. It is fine and they dry quickly because sliced so thin.

And still another means is to grow cucumbers and salt them down, selling them in the winter at forty cents a gallon. I know a lady who realizes a neat sum this way, and has them all ordered over the telephone by people whom she has acquired as customers year after year.

Popcorn is easily grown and sells readily at the holiday season.

MRS. E. B. GRAND, Colorado.

Money in Vegetables

I FOR one make money raising vegetables, onions, cabbage and tomatoes, these being my main crop, while cucumbers, beets, green peas and turnips help toward filling the pocketbook. I put out nine quarts of white onion sets, which were ready for market June 15th, and they bring usually from three to four cents a pound. I sell cucumbers for slicing at fifteen cents a dozen, when later in the season I can sell them for pickles at a very good price. Turnips do well with but little care. I plant them in drills or rows, four inches apart in the row, and the rows eighteen inches apart, put them out as soon as possible in the spring, and I always have nice sweet turnips for sale by the first of June, which bring three cents a pound. Then comes the tender red beets, ready for market July 4th, at three or four cents a pound. I raise early spring cabbage and late Flat Dutch, which sell readily. With but little care one can raise lots of nice cabbage. I generally put out three hundred or three hundred and fifty plants. And then comes the good old tomato, which always finds the market ready for it at four or five cents a pound. I make a cold frame in early spring, and raise my own plants. I hope some one will try my plan. Although I have not gotten rich, I have made all the spending money I needed.

LILLY BALL, Kansas.

Raspberry Ways

RASPBERRIES PRESERVED IN JELLY—Choose the largest and best raspberries, and to every pound of fruit allow one and one fourth pounds of sugar; make the sugar into a sirup, and boil to candy height, then put in the raspberries and set the pan over a gentle fire, and as they boil shake the pan carefully. When the sugar boils over the raspberries remove them from the fire and skim them well, remove the pan from the fire for about ten minutes, then set them on again. Have by you half a pint of red currant juice, and add it to the raspberries little by little as it boils; shake them often as they grow near being done, which you may tell by trying a little in a cold spoon; if it jellies quickly they are done enough. Lay the raspberries in the glasses, keeping enough jelly to well cover them; tie down well with bladder.

RASPBERRY VINEGAR—Put into a clean earthen vessel one quart of fine ripe raspberries, and pour over them one quart of the best wine vinegar. Next day strain the liquor well from the fruit upon one quart of fresh raspberries; and next day do the same thing again. When ready, take a canvas bag dipped first into wine vinegar, and pass the whole of the liquor through it into a clean jar; allow one pound of lump sugar, well crushed, to every pint of juice, stir well, and when the sugar is dissolved set the jar in a copper or large pot of water; when the liquor boils, skim it and let it simmer for a moment. When cold bottle it, cork well, and seal.

RASPBERRY MARMALADE—Put four pounds of picked raspberries into a preserving pan with one and one half pints of the juice of red currants; set them over a slow fire (charcoal is best), and let them simmer until most of the juice has gone. In the meantime boil three pounds of best lump sugar to candy height, and put the raspberries in it; set the pan over the fire again, and let simmer until firm; when cool put into glasses, and as soon as cold tie over with bladder.

RASPBERRY FRITTERS—Beat well two eggs and put them into one fourth of a pint of cream, one tablespoonful of brandy, and a dash of nutmeg, and make these ingredients into a thick batter with ordinary flour. Take a small skewer and run three or four raspberries upon it, dip them well into the batter, and fry in fresh, sweet lard. The skewer can easily be removed before sending to table, without disfiguring the fritter.

RASPBERRY JAM—Pick five pounds of good, ripe raspberries, sort carefully, clarify four pounds of sugar in a sweet-meat pan, let it come to the first soufflé (this you may know by blowing through the holes of your skimmer, if it flies off in feathers), put in the fruit, cover it, give it a boil, and skim. It is then ready for the pots or glasses.

Coconut Cake

CREAM together three fourths of a cupful of butter and one and one half cupfuls of white sugar, then add three eggs, the yolks and whites well beaten separately. The yolks should be added first to the butter and sugar, and then the whites beaten stiff. Then add one cupful of sweet milk, and flavor with lemon or vanilla. Mix three heaping teaspoonfuls of baking powder in three cupfuls of sifted flour, and add last. Bake in jelly pans about twenty-five minutes.

For filling, make an icing by beating the whites of two eggs and one cupful of powdered sugar to a stiff froth. When the cake is cool, spread a thick layer of frosting over each cake and sprinkle very thickly with grated coconut.

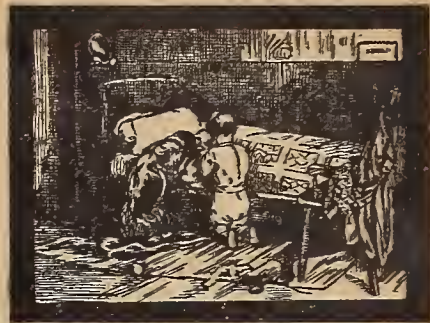
Corn Pudding

SIX ears of corn, one pint of milk, two eggs, three tablespoonfuls of melted butter, one heaping teaspoonful of cornstarch or flour, one teaspoonful of salt and one half teaspoonful of pepper. Cut off the top of the grain with a sharp knife, and scrape the corn, so as to get the heart without any husk. Add the corn to the well-beaten yolks of the eggs, next the butter, cornstarch and salt, then the milk, and lastly stir in the whites of the eggs. Pour in a greased baking dish, and bake in a quick oven.

Date Muffins

MIX and sift one and one half cupfuls of entire wheat flour, two teaspoonfuls of baking powder and one half teaspoonful of salt. Beat the yolks of two eggs until thick and lemon colored, and add one cupful of milk. Combine mixtures, and beat thoroughly; then add two tablespoonfuls of melted butter and the whites of two eggs beaten until stiff. Fold into the mixture one half cupful of dates stoned, quartered and dredged with flour. Bake in buttered gem pans in a moderate oven twenty-five minutes.

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Mary Magpie's Stratagem

By Anna Baldwin Reddick

A Story of Special Interest to Young People



"I don't like to go and dance before everybody and wear these," complained John Magpie to his sister Mary, as he gave his pants a jerk. They walked around the wagon to the opposite side of the tepee and sat upon a log.

"There's Fanny Left Hand that has a red dress trimmed with shells, and Joe has good clothes from the agency," continued Mary as she turned her pretty head to one side, pulling her thin calico dress and eying John's gray jeans sorrowfully.

"Fanny called me 'few clothes,'" complained John.

"Fanny likes her fine dress. We would like some nice things, too, if we had them, John. All the other Indian babies in our camp have pretty dresses but little brother Frank. He is prettier than the others and has never had a good dress yet."

"I know it, Mary, but did you see the hides that mama dressed and tanned for Little Bird's girls? They were soft and light and she made them yellow. When I said, 'Mama, won't you buy us dresses?' she said, 'No, I buy wo-haw' (Beef)."

To the Indians the fair was to be the great event of the year, and an Indian dance was to be the great feature. There were to be Cheyennes, Arapahoes and Sioux from the North and Kiowas from the South.

The fair was to last a week and they were to dance every afternoon and evening; and with the thousands of people

And the stranger, tossing the children a number of bright pennies, rode away satisfied.

"Where is the knife, Mary?" asked John.

"Yellow Shirt has it; he has stolen it twice after selling it. He is not a good Indian, is he, John?"

"No, but he is so old, that is why he is so cross."

"Grandpa is older than Yellow Shirt and he is not cross,"

was Mary's serious reply. "He is so ugly that he will not let a nice dog come near him without kicking it. Our papa said the knife was not his and if he was not an old Indian they would lock him up for taking it after he had sold it. It is the man's and the agent wants him to have it; that is why he came to me. You must help me get it and maybe so we can get money to buy us some good clothes to wear."

John said nothing, but his eyes danced. The year before at the fair, many relics and curios had been put on exhibition by the Indians. Part of the famous collection belonging to Yellow Shirt had been placed there, too. When in camp these things were kept in a tepee by themselves and meddlesome little fingers were never allowed to touch the sacred articles. Once only had Mary been allowed to glance in at the tepee door, and then she had caught sight of some strange things that made her wonder how everything looked.

And the knife Mary knew was in the camp, for only a few days before she had heard Yellow Shirt tell a story of the wonderful knife which he still had.

There was a great wedding feast in camp. Jane Black Bear and Guy Split Nose were married and all the Indians for many miles around were present and had danced for three days and nights.

The old men had danced or stayed around the camp fire and smoked. Some of the older women cooked the meat, and many of the children played outside the tents or chased around the tepees among the shadows of the trees.

It was night. The drum was sounding and the dance was on. Fanny and Joe Left Hand were there and stood in the great circle close to John and Mary. Once when the drum stopped, Fanny shook the white shells on her dress, and leaning over to Mary whispered "few clothes."

The taunt was too much for Mary's stout little heart, and taking John by the hand they went quietly out of the door. The stars were shining and the camp fires threw a light upon the trees that was strangely beautiful. Mary looked up the hill slope at the sacred tepee, and the poles sticking from its top seemed to beckon.

"Come, John," she said, and they stole away into the darkness together.

"Where is he?" asked John, referring to Yellow Shirt.

"They smoke the pipe of peace by the camp fire," answered Mary, pointing to a distant blaze.

John looked in that direction and saw eight old men with their feet crossed under them, sitting on the ground in a circle near the fire smoking and talking together.

"Come," said Mary, and they approached the sacred tepee.

"You go in and you will die," whispered John.

"Willie Swallow went in one day when the door was open; he did not die," replied Mary.

"He did not know what it was," asserted John.

"Two dogs went in and they did not die," continued Mary.

"Yes, but they were only dogs," protested John with a wise shake of his head.

Mary was firm, and placing John behind a large white oak she put two sticks in his hand to throw against the tepee in event of approaching danger.

Carefully she untied the fastenings of the door, which was only a flap, and

stealthily crept in. The light from the fires around lit the inside so that all objects within were plainly seen. There was the same powwow jacket that she had seen before; arrows and knives that filled her with fear, while two large war bonnets made of eagle feathers dangled from the center. But where was the knife?

She lifted the lid of a tall trunk. Yes, there lay some scalps and the knife in its sheath. She touched the scalp locks cautiously. "Like me," she said as she picked up a scalp with long soft hair.

What was that? Did John hit the tent? Yes, she was sure of it. She gripped the knife and closed the trunk almost paralyzed with fright. "Ugh," said a voice, for some one coming had found the tepee door open. Mary crept behind the trunk, which stood across one corner of the tent. In came the feeble old man, and taking a war bonnet from its hanging, he placed it on his head. He opened the trunk, and fastening the belt around his waist he attached some scalps to it. He was looking for something. She heard him talking to himself about his knife.

He had put on his war bonnet and scalps and wanted to show the other Indians the knife that had helped him win them.

But they were waiting below for him, and at last he took a common dirk, and fastening it in his belt he went out, closing the door securely behind him.

Mary drew a deep breath. John was not near and she did not dare to call; she tried to find an opening, but there was none. Moving the trunk a little, she began to claw with her hands, but that

was a slow way to dig out. A bright thought suggested itself, and the keen edges of the Custer knife were put to use for which they were never intended. With it she dug rapidly, and soon had a hole large enough to get through.

Once outside she reached beneath the canvas and pulled the dirt into place.

Poor, frightened John, a little way up the hillside, came to Mary as soon as he saw her, and together they stole away into the darkness and hid the knife under a fallen tree.

The next day their keen black eyes kept a sharp lookout for the trader. On the opposite side of the hill from the camp they chased rabbits and threw sticks at squirrels until nearly noon.

"Have you the knife, Mary?" asked the man as he approached.

"Yes," she answered, quite willing to talk this time.

"Where is it?"

"What you give me?" she replied, meeting his question with another.

"I will give you beef," he suggested.

"No," answered Mary.

"I will give you money," and he showed her a handful of silver.

"What have you in your buggy?" she asked, as she lifted his laprobe.

"Deerskins, Mary. Do you want those?"

"I take that," said Mary. "That will make a dress for John and me, and little brother Frank will have a better dress than any other baby in our camp."

"Go tell your mother how you got these, and she must make you and John



JOHN AND MARY MAGPIE IN THEIR NEW BUCKSKIN SUITS



FANNY LEFT HAND HAS A RED DRESS TRIMMED WITH SHELLS, AND JOE HAS GOOD CLOTHES FROM THE AGENCY

that were to watch them, was it strange that Mary and John should want new clothes? While they were talking they saw their dogs chasing a rabbit. "Ki-ah," shouted Mary.

"Na-na," cried John, and away they sped after dogs and rabbit.

"Hello, you savey English?" they were asked by a man on horse. Mary shook her head. "Are you Mary Magpie?" asked the stranger.

"No savey," said Mary, not wishing to talk.

The man tossed her a five-cent piece. "Are you Mary Magpie?" he asked again.

"Yes," she answered, hanging her head.

"Then you speak good English; the man at the agency told me you did."

"Yes, I savey," she said.

"Well, Mary, I am hunting a knife; it is known among you Indians as the Custer knife. It is about fifteen inches long and has a wide double-edged blade. Do you know of the knife, Mary? Did you ever see it?"

"Do you talk about the one that has taken so many scalps?"

"Yes. Can you find it? I will pay you well for it. I bought it about a year ago and some one who saw it, wanted it and took it away. When can I see you again, Mary?"

"In six days under the big elm west of my camp."



LITTLE BROTHER FRANK, WHO WAS DRESSED BETTER THAN ANY BABY IN THE CAMP

some fine suits." But not until he had placed the five hides at her feet did Mary deliver the knife.

Few clothes indeed! What is there that makes a handsomer dress than deer-skin? Their mama dressed and tanned the hides, and at the fair there were none who looked so pretty as Mary and John Magpie in their buckskin suits.

Harvest Apples

BY LYNAS CLYDE SEAL

There is bustling in the orchard.
Birds and bees are flying round;
In and out and hither, thither,
All the children gaily bound.

Such a medley of small voices!
Birds of almost every stripe
Congregate about the orchard—
Harvest apples now are ripe.

On each stake a saucy "redhead"
Whets anon his horny bill
Till his appetite grows sharper.
Keener thrice than does his will.

Comes a raid then on the apples:
Feathered gluttons by the score,
With their horny beaks well sharpened,
Stab the apples to the core.

Come the curious jay and sparrow,
Comes the red finch, nesting near.
Come all the merry woodland songsters
Mingling music with the cheer.

Come the eager, festive children
Shouting cheer to Plenty's Horn,
And there's gladness in the orchard
On the early harvest morn.



AMONG KIWAS, CHEYENNES AND ARAPAHOS

A Girl and a Picture

By L. M. Montgomery

A Clever Tale of Western Courtship by Mail

WHEN I heard that Peter Austin was in 'Frisco I hunted him up. I had met Peter ten years before when I had gone East to visit my father's people, and had spent a few weeks at an uncle's in Croyden. The Austins lived across the street from Uncle Tom's and Peter and I had struck up a friendship, although he was a hobbledehoy of awkward sixteen and I, at twenty-two, was older and wiser and more dignified than I've ever been since or ever expect to be again. Peter was a jolly little round chap with reddish hair and freckles. He was all right when no girls were around; when they were he retired within himself like a misanthropic oyster and was about as interesting. This was the one point upon which we always disagreed. Peter couldn't endure girls; I was devoted to them by the wholesale. The Croyden girls were pretty and vivacious. I had a score of flirtations during my brief sojourn among them.

But when I went away the face whose memory I carried with me was not that of any girl with whom I had walked and driven and played the game of hearts.

It was ten years ago, but I had never been quite able to forget that girl's face. Yet I had seen it but once and then only for a moment. I had gone for a solitary ramble in the woods over the river, and in a lonely little valley dim with pines, where I thought myself alone, I had come suddenly upon her, standing ankle deep in fern on the bank of a brook, the late evening sunshine falling yellowly on her uncovered dark hair. She was very young—not more than sixteen; yet the face and eyes were already those of a woman. Such a face! Beautiful? Yes, but I thought of that afterward, when I was alone. With that face before my eyes I thought only of its purity and sweetness, of the lovely soul and rich mind looking out of the great grayish-blue eyes which in the dimness of the pine shadows looked almost black. There was something in the face of that child woman I had never seen before and was destined never to see again in any other face. Careless boy though I was, it stirred me to depths. I felt that she must have been waiting forever in that pine valley for me, and that in finding her I had found all of good that life could hold for me. I would have spoken to her, but before I could shape my greeting into words that should not seem rude or presumptuous she had turned and gone, stepping lightly across the brook and vanishing in the maple copse beyond. For no more than ten seconds had I gazed into her face, and the soul of her, the real woman behind the fair outwardness, had looked back into my eyes; but I had never been able to forget it.

When I returned home I questioned my cousins diplomatically as to who she might be. I felt strangely reluctant to do so—it seemed in some way sacrilege; yet only by so doing could I hope to discover her. They could tell me nothing, nor did I meet her again during the remainder of my stay in Croyden, although I never went anywhere without looking for her and haunted the pine valley daily in the hope of seeing her again. My disappointment was so bitter that I laughed at myself.

I thought I was a fool to feel thus about a girl I had met for a moment in a chance ramble, a mere child at that, with her hair still hanging in its long, glossy schoolgirl braid. But when I remembered her eyes my wisdom forgave me.

Well, that was ten years ago; in those ten years the memory had, I must confess, grown dimmer. In our busy Western city a man had not much time for sentimental recollections. Yet I had never been able to care for another woman. I wanted to; I wanted to marry and settle down. I had come to the time of life where a man wearies of drifting and begins to hanker for a calm anchorage in some snug haven of his own. But somehow I shirked the matter. It seemed rather easier to let things slide.

At this stage Peter came West. He was something in a bank and was as round and jolly and red headed as ever; but he had evidently changed his opinion regarding girls, for his rooms were full of their photos. They were stuck around everywhere and they were all pretty. Either Peter had excellent taste or the Croyden photographers knew how

to flatter. But there was one on the mantel which attracted my attention especially. If the photo were to be trusted the girl was quite the prettiest I had ever seen.

"Peter, what pretty girl's picture is this on your mantel?" I called out to Peter, who was in his bedroom donning evening dress for some function.

"That's my cousin, Anne Lindsay," he answered. "She is rather nice-looking, isn't she? Lives in Croyden now—used to live up the river at Chiselhurst. Didn't you ever chance across her when you were in Croyden?"

"No," I said. "If I had I wouldn't have forgotten her face."

"Well, she'd be only a kid then, of course. She's twenty-six now. Anne's a mighty nice girl, but she's bound to be an old maid. She's got notions—ideas she calls 'em. All the Croyden fellows have been in love with her some time or another, but they might as well have gotten smitten on a statue. Anne really hasn't a spark of feeling or sentiment in her. Her looks are the best of her, although she's comfortably clever."

Peter spoke rather snuffily. I suspected that he had been one of the smitten swains himself. I looked at the photo for a few minutes longer, admiring it more every minute; and when I heard Peter coming out I did an unjustifiable thing—I took that photo and put it in my pocket.

I expected Peter would make a fuss when he missed it; but there was an overruling Providence in this affair all through. That very night the house in which he lived was burned to the ground. Peter escaped with his life and the most important of his goods and chattels; but the counterfeit presentments of his dear divinities went up in smoke. If he ever thought particularly of Anne Lindsay's photo he must have supposed it shared the fate of the others.

As for me, I propped my stolen treasure up on my mantel and worshiped it for a fortnight. At the end of that time I went boldly to Peter and told him I wanted him to introduce me by letter to his cousin and ask her to agree to a friendly correspondence with me.

Oddly enough, I did not do this without some reluctance, in spite of the fact that I was as much in love with Anne Lindsay's picture as it was possible to be with a picture. I thought of the girl I had seen in the pine wood and felt an inward shrinking from a step which might divide me from her forever. But I rated myself for this nonsense. It was in the highest degree unlikely that I should ever meet the girl of the pines again. If she were still living she was probably some other man's wife. I would think no more about it.

Peter whistled when he heard what I had to say.

"Of course I'll do it, old man," he said obligingly. "But I warn you I don't think it will be much use. Anne isn't the sort of girl to open up a correspondence in such a fashion. However, I'll do the best I can for you."

"Do. Tell her I'm a respectable fellow with no violent bad habits and all that. I'm in earnest, Peter. I want to make that girl's acquaintance, and this seems the only way at present. I can't get off just now for a visit East. Explain all this and use your cousinly influence in my behalf if you possess any."

Peter grinned.

"It's not the most graceful job in the world you're putting on me, Curtis," he said. "I don't mind owning up now that I was pretty far gone on Anne a couple of years ago myself. It's all over now, but it was bad while it lasted. Perhaps Anne will consider your request more favorably if I put it in the light of a favor to myself. She must feel that she owes me something for wrecking my life."

Peter grinned again and looked at the one photo he had contrived to rescue from the fire. It was a pretty, snub-nosed little girl. She would never have consoled me for the loss of Anne Lindsay; but every man to his taste.

In due time Peter sought me out to give me his cousin's answer.

"Congratulations, Curtis. You've out-Cæsared Cæsar. You've conquered without even going and seeing. Anne agrees to a friendly correspondence with you. I am amazed, I admit, even though I did

paint you up as a sort of Sir Galahad and Lancelot combined. I am not used to seeing proud Anne do stunts like that, and it rather takes my breath."

I wrote to Anne Lindsay after one final farewell dream of the girl in the pines. When Anne's letters began to come regularly I forgot the other altogether.

Such letters—such witty, sparkling, clever, womanly, delightful letters! They completed the conquest her photograph had begun. Before we had corresponded six months I was besottedly in love with this woman whom I had never seen. Finally I wrote and told her so; and I asked her to be my wife.

A fortnight later an answer came. She said frankly that she believed she had learned to care for me during her correspondence, which she had found very delightful, but that she thought we should meet in person before coming to any definite understanding. Could I not arrange to visit Croyden in the summer? Until then we would better continue on our present footing.

I agreed to this; but I considered myself practically accepted and engaged, with the personal meeting merely to be regarded as a sop to the Cerberus of conventionality. I permitted myself to use a decided lover-like tone in my letters henceforth and I hailed it as a favorable omen that I was not rebuked for this, although Anne's own letters still retained only their pleasant, simple friendliness.

Peter had at first tormented me mercilessly about the affair, but when he saw I did not like his chaff he stopped it. Peter was always a good fellow. He realized that I regarded the matter seriously, and he saw me off when I left for the East with a grin tempered by honest sympathy and understanding.

"Good luck to you, Curtis," he said. "If you win Anne Lindsay you'll win a pearl among women. I haven't been able to grasp her taking to you in this fashion. It's so unlike Anne; but since she undoubtedly has, you're a lucky man."

I arrived in Croyden at dusk and went to Uncle Tom's. There I found them busy with preparations for a party to be given that night in honor of a girl friend who was visiting my cousin Edda. I was secretly annoyed, for I wanted to hasten at once to Anne. But I couldn't decently get away; and anyway I consoled myself by reflecting that she would probably come to the party. I knew she belonged to the same social set as Uncle Tom's girls. I should, however, have preferred our meeting to have been under different circumstances.

I eagerly scanned the guests as they arrived from my stand behind the palms in the corner. Suddenly my heart gave a bound. Anne Lindsay had just come in.

I recognized her at once from her photograph. It had not flattered her in the least; indeed, it had done her scant justice, for her exquisite coloring of hair and complexion were quite lost in it. She was, moreover, gowned with a taste and smartness eminently admirable in the future Mrs. Eric Curtis. I felt a thrill of proprietary pride as I promptly stepped out from behind the palms. She was talking to Aunt Grace, but her eyes fell on me. I expected a little start of recognition, for I had sent her an excellent photograph of myself; but her gaze was one of the blindest unconsciousness.

I felt something like disappointment at her non-recognition; but I consoled myself by the reflection that people often fail to recognize other people whom they have seen only in photograph, no matter how good the likeness may be. I waylaid Edda, who was passing at that moment, and said:

"Edda, I want you to introduce me to that girl in pale green who is talking to your mother."

Edda laughed.

"So you have succumbed at first sight to our Croyden beauty. Of course I'll introduce you, but as I hate to take unfair advantage of a fellow creature I'll warn you beforehand that she is the most incorrigible flirt in Croyden or out of it. So take care."

It jarred me to hear Anne called a flirt. It seemed so out of keeping with her letters and the womanly delicacy and fineness revealed in them. But I reflected that women, even nice ones like Edda, find it hard to forgive another woman

who absorbs more than her share of lovers, and generally take their revenge dubbing her a flirt, whether she deserves the name or not.

We had crossed the room during this reflection. Anne turned away from Aunt Grace and stood before us, smiling at Edda, but evincing no recognition whatever of myself. It is a piquant experience to find yourself awaiting an introduction to a girl to whom you are virtually engaged.

"Dorothy dear," said Edda, "this is my cousin, Mr. Curtis, from San Francisco. Eric, this is Miss Armstrong."

I suppose I bowed. Habit carries us mechanically through many impossible situations. I don't know what I looked like or what I said, if I said anything. I don't suppose I betrayed my dire confusion, for Edda went off unconcernedly without another glance at me.

Dorothy Armstrong! Good heavens

... who ... where ... why? If this girl was Dorothy Armstrong, who was Anne Lindsay? To whom was I engaged? There was some awful mistake somewhere, for it could not be possible that there were two girls in Croyden who looked exactly like the photograph reposing in my valise at that very moment. I stammered like a schoolboy.

"I—ah—I—your face seems familiar to me, Miss Armstrong. I—I—think I must have seen your photograph somewhere."

"Probably in Peter Armstrong's collection," smiled Miss Armstrong. "He had one of mine before he got burned out. Peter had a mild mania for collecting photographs. How is he?"

"Peter? Oh, he's well," I replied vaguely. I was thinking a hundred words to the second, but my thoughts arrived nowhere. I was staring at Miss Armstrong like a man bewitched. She must have thought me a veritable booby. "Oh, by the way, can you tell me—do you know a Miss Lindsay in Croyden?"

Miss Armstrong looked surprised and a little bored. Evidently she was not accustomed to having newly introduced young men inquiring about another girl.

"Anne Lindsay? Oh, yes."

"Is she here to-night?" I said.

"No. Anne is not going to parties just now, owing to the recent death of her aunt, who lived with them."

"Does she—ah—does she look like you at all?" I inquired idiotically.

Amusement glimmered over Miss Armstrong's boredom. She probably concluded I was some harmless lunatic.

"Like me? Not at all. There couldn't be two people more dissimilar. Anne is quite dark. I am fair. And our features are altogether unlike. Why, good evening, Jack. Yes, I believe I did promise you the first dance."

She bowed to me and skimmed away with Jack. I saw Aunt Grace bearing down upon me, and fled incontinently. In my own room I flung myself on a chair and tried to think the matter out. Where did the mistake come in? How had it happened? I shut my eyes and conjured up the vision of Peter's room that day. I remembered vaguely that when I had picked up Dorothy Armstrong's picture I had noticed another photograph lying face downward beside it. That must have been Anne Lindsay's, and Peter had thought I meant it.

And now what a position I was in! I was conscious of bitter disappointment. I had fallen in love with Dorothy Armstrong's photograph. As far as external semblance goes it was she I loved. Yet I was practically engaged to another woman, a woman who, in spite of our correspondence, seemed to me now, in the shock of this discovery, a stranger. It was useless to tell myself that it was the mind and soul revealed in those letters that I loved and that that mind and soul were Anne Lindsay's. It was useless to remember that Peter had said she was pretty. Exteriorly she was a stranger to me; hers was not the face which had risen before me for nearly a year as the face of the woman I loved. Was ever unlucky wretch in such a predicament before?

Well, there was only one thing to do. I must stand by my word. Anne Lindsay was the woman I had asked to marry me, whose answer I must shortly go to receive. If that answer were "yes" I must accept the situation and banish all thought of Dorothy Armstrong's pretty face.

[CONCLUDED ON PAGE 17]

A Page of Wrappers and Dressing Sacques



No. 581—Tucked Bed Jacket
Sizes 34, 36, 38 and 40 inch bust measures.

IT WILL be good news to the woman who feels she has no knack at all for embroidering to know that French knots are being used more than ever. These little knots any woman can make, no matter how clumsy she is with her needle. A dainty trimming for a summer dress is to use bands of white moire ribbon embroidered in French knots so arranged that they form deep points. Work the knots so that they are shaded in blue, pink, green or any color that will harmonize well with the gown. An extremely pretty trimming for a dressing sacque of French flannel or albatross consists of bands of ribbon scattered with French knots so grouped together that they have the effect of polka dots. A tan-colored dressing sacque, for instance, would look very charming trimmed with dark blue ribbon bands scattered with polka dots or French knots worked in dark blue silk.



No. 624—Morning Jacket
Sizes 32, 34, 36 and 38 inch bust measures.

DRESS-SHIELD covers of fine lawn and lace are the latest dainty accessory for the summer girl's wardrobe. Every woman who wears a lingerie gown or shirt waist knows how unsightly it looks to have the shield plainly visible, as it always is. Yet it is in just these filmy gowns that the shield is so necessary, and particularly this summer, when many of the lingerie fabrics have a touch of color in them which perspiration will quickly blot out. The shield covers are made in a double bag form with plain lawn at the back. The shield is slipped inside.



No. 875—Kimono With Yoke (Long or Short)
Sizes 32, 36 and 40 inch bust measures.

MADISON SQUARE PATTERNS

Our magnificently illustrated summer catalogue of Madison Square patterns will be sent free upon request. Order all patterns from Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

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EVERY woman in planning her clothes should bear in mind the purpose for which they are designed. If she needs a wrapper, and wants to use it to work around the house in, she must be careful not to have a mass of frills and furbelows. The neat, trim effect is what she should aim for, and material that will stand the wear and tear of frequent laundering.

Many women for morning wear prefer a wrapper to a shirt waist and skirt suit. They claim it is much easier to get into in a hurry, as the wrapper is made in one piece, and there is no separate collar or belt to adjust. However, there are just as many women who think a shirt-waist suit makes a much better morning dress. The wrapper with a tucked yoke illustrated on this page has the happy faculty of suiting almost every one.

It is so trim and smart looking that it has much the effect of a shirt-waist suit. It is made with a tight-fitting Princess back, which is so much more desirable than the loose effect. The wrapper is belted in so that it gives the appearance of a



No. 853—Wrapper With Tucked Yoke
Sizes 32, 34, 36 and 38 inch bust measures.

shirt waist and skirt. The sleeves are tucked to fit the lower arm closely; but as many women find that long sleeves are always in the way while they are working, the pattern also provides for sleeves which are finished just below the elbow. The fitted lining of this wrapper is included in the pattern. All the good wearing wash materials, such as cotton cheviot, madras, mercerized linen and percale, are all serviceable fabrics for this wrapper. However, it will look a very fetching little gown if made up in flowered challie, wool batiste, lansdowne or albatross. The tucked bed jacket shown on this page is invaluable in cases of sickness. It is just the thing to slip over one's night dress before the doctor arrives.

Many fashionable society women who rest in bed for a good half of the morning have a dozen or more bed jackets made of crepe de chine or China silk billowy with laces. These little bed jackets may match in colors the ribbons which are used to trim their different night dresses.



No. 627—Plain Princess Wrapper
Sizes 34, 36, 38, 40 and 42 inch bust measures.

THIS wrapper will specially appeal to the woman with a good figure. It will give any woman, however, a trim look. The gown is fitted with darts, and at the center back there are two inverted plaits below the waistline. Gingham and percale are both good materials to use. If one wishes to make this wrapper up in some thin fabric, like lawn, the waist portion can be lined, just to give it a little more body.



No. 724—Waist With Adjustable Plastron
Sizes 32, 34, 36 and 38 inch bust measures.

No. 725—Five-Gored Gathered Skirt
Sizes 22, 24, 26 and 28 inch waist measures.

Now that the Empire effects are the vogue, this pattern for a plaited morning jacket in an Empire effect is most desirable. The jacket is box plaited and the velvet ribbon so arranged that it gives the short-waisted look. Lansdowne and albatross are both good materials to use for a jacket of this sort, with any pretty lace as a finish, and the ribbons of black velvet. For hot-weather wear China silk or flowered dimity may be used.

The Empire house gown illustrated on this page makes a most fascinating little dress—a house gown pretty enough to wear when receiving one's friends. Cotton crepe, challie and wash taffeta are all good materials to use for this gown, with embroidered bands or lace insertion for the trimming. The



No. 883—Plaited Empire Morning Jacket
Sizes 32, 36 and 40 inch bust measures.

house gown is made with three deep plaits on the shoulders. The gown crosses in front in surplice effect. The chemisette is adjustable, making it possible to have the gown high or low neck. In making the dress, when a plainer effect is desired the ruffle may be omitted, or if one wants the gown more elaborate, the ruffle may be of lace or sheer embroidery.

For a comfortable dressing gown there is nothing like a kimono. The pattern of the kimono illustrated on this page is specially desirable, because the fulness hangs from the yoke instead of the shoulders. The pattern is so perforated that one can have a short as well as a long kimono. It is made of cotton crepe with pretty flowered ribbon bands.



No. 674—Empire House Gown
Sizes 32, 34, 36 and 38 inch bust measures.

Practical Mid-Summer Fashions

By Grace Margaret Gould



No. 963—Plaited Shirt Waist With Round Yoke

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or two and three fourths yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming

WHEN it gets to be mid-summer every woman's wardrobe needs a bit of attention so that it may live up to its reputation for freshness and smartness straight to the end of the season. Try adding a new shirt waist or two and see what they will accomplish in a renovating way. The very newest shirt waists emphasize the broad-shoulder effect either in the design of the waist itself or in the arrangement of the trimming.

The bretelle shirt waist illustrated on this page carries out this new idea most successfully. The model is made with two box plaits in the center front. Under these plaits tabs are fastened, which button over onto the waist. There is a plait on each shoulder back and front extending to waistline. The bretelles are fastened under these plaits. They are graduated in shape, and are caught at the shoulders with buttoned-over pointed tabs. The long shirt-waist sleeve is finished with a tab cuff with a group of tucks at the back of the cuff.

This waist can be made up with or without the bretelles, just as preferred. The waist is made with a neckband, so that any collar may be worn with it, though the pattern includes the collar shown in the illustration. Soft French piqué, which is quite the most fashionable cotton material of the hour, is a good material to select for this waist. This material is very beautiful in texture and comes in many new designs. However, if one wishes a material a little less expensive, there is cotton Bedford cord, chambray, gingham and linen, all of which can be used with good results. A novel idea is to use a plain colored gingham for the body of the waist and the

Send all pattern orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. In ordering, give number of pattern and bust and waist measures required. In ordering children's patterns, mention age. The price of each pattern is ten cents. Write for our new summer catalogue. Sent free on request.

bretelles, and to have the tabs in either check or plaid gingham.

Of course, it must be remembered that there is not just one style of shirt waist that is the fashionable thing for late summer. Oh, dear, no! That is not at all Dame Fashion's policy this year. There are many varying styles, all of which are equally the vogue.

A chic little waist which lends itself admirably to many materials, such as silk, coarse linen or sheer batiste, is made with a round yoke and elbow sleeves. The front is laid in four box plaits, which are stitched down only part way. At the back there are two box plaits stitched to the waistline. The sleeve is an



No. 966—Bretelle Shirt Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material

covered buttons, for the trimming. If it is to serve duty for early fall wear, then a light-weight poplin or panama cloth should be the fabric selected, and the trimming mohair braid, with the buttons of the self material. Under sleeves of silk, braid-trimmed at the wrist, are appropriate to wear with this costume if one prefers a long to a short sleeve for an early fall dress.

Guimpe dresses continue to be the fashion for children. But of course those most liked are the ones which show some special note of novelty. The little dress illustrated on this page is a one-piece guimpe dress which buttons on the shoulders. The dress is slipped on over the head. Its new feature is that the backs are extended over the shoulders in scalloped tabs which button at the front of the dress. The dress is made with double box plaits back and front, and a heart-shaped yoke. With the dress is given also a separate guimpe pattern which is made with elbow puff sleeves having armbands.

The patterns for the girl's one-piece under waist and gathered drawers illustrated on this page can both be obtained for ten cents. The plain little under waist buttons in the back. The drawers, which are trimmed with embroidery frills, button at the sides, and they also button to the under waist at the back and front.



No. 965—One-Piece Guimpe Dress Buttoned on Shoulders

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, four yards of twenty-two-inch material, or two and one fourth yards of thirty-six-inch material, with one and three fourths yards of all-over embroidery for the guimpe

elbow puff, with tucks or gathers at the shoulder, and a flaring cuff trimmed to match the yoke. In two shades of linen—a light and a dark shade—this waist, which buttons in the back, would develop very effectively, using crochet buttons and loops for the trimming, and narrow bands of the lighter linen stitched in a darker shade as an extra trimming for collar and cuffs. As a design for a taffeta waist, with velvet collar, yoke and cuffs, it will also prove extremely smart.

If one can afford an extra dress at this season of the year, the shirt-waist suit shown on this page is a specially good model to use. It is plain, and yet has a smart style of its own, and can be worn in the early fall as well as the late summer. If it is just to help out the summer wardrobe, a linen suiting or one of the very new coarsely woven linens known as "Egyptian" linen will be quite the most fashionable fabric to select, with linen braid and eyelet embroidery, as well as big linen-

No. 967—Double-Breasted Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of twenty-two-inch material, or two and five eighths yards of thirty-six-inch material

No. 968—Nine-Gored Walking Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, eight yards of twenty-two-inch material, or six yards of thirty-six-inch material



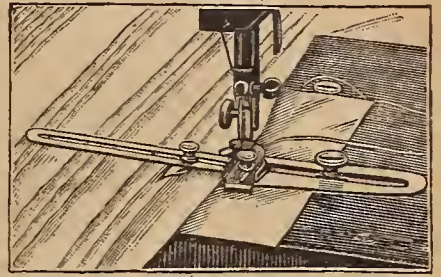
No. 964—Girl's Under Waist and Drawers

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, two yards of twenty-two-inch material, or one and three eighths yards of thirty-six-inch material, with two and one half yards of edging, three yards of embroidery and one and three fourths yards of insertion

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The War a Continuous Picnic

KEEPING watch on thousands of cases of liquor for Uncle Sam, and knitting socks, mittens and wristlets between times, is the odd occupation of an old soldier of the Army of the Cumberland.

Major R. B. Chappell is the government storekeeper in charge of a bonded warehouse in Chicago. It is his duty to receipt for all packages that are stored in the warehouse, where they remain until the duty is paid, after which they may be removed, Major Chappell taking a receipt for the goods that leave his charge.

This kind of a job leaves a deal of spare time on the hands of the veteran, and he conceived the idea of putting it to good use. He has had the position for four years, and in that time thousands of skeins of material have been worked off the needles in his hands. He sits in the corner of a big storeroom, where through the window thousands of pedestrians and street-car passengers see him every day.

He contrived a reel from which he unwinds his yarn to a ball, and the ball is allowed to rest in a small canvas bag that he buttons on his coat while he knits away industriously. Hundreds of Chicagoans kept their fingers and toes warm during the winter by using the gloves and socks that have formed gifts from the old soldier to his friends. People stop on the sidewalk and gaze through the window, but the worker within never drops a stitch, paying no attention to the "rubbernecks" that sometimes block the sidewalk without.

Major Chappell has an interesting war record. He is perhaps the only veteran of the Civil War who chooses to call the great conflict a "continuous picnic." Most old soldiers love to talk of the hardships of the camp, the battle field and the long marches, together with the horrors of the rebel prison pens. This old government official, spending his last



MAJOR CHAPPELL, A QUAIN OLD WAR CHARACTER, WHO KNITS SOCKS FOR PASTIME

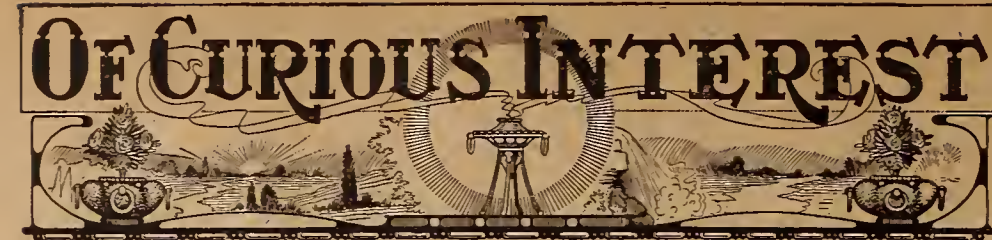
days clicking his knitting needles, seems to have nothing but the brighter things of the war on his mind.

No one need think from this that he did no fighting. He could not have been with the Army of the Cumberland without feeling the fire and smelling powder. He was twice wounded, but he says it did not hurt him much. He spent four years and six months in the service, first going out with the three-months' men. Then he quickly re-enlisted, and he hung on while most soldiers had gone to their homes. He was in Georgia as a provost marshal during reconstruction days.

To-day he is close to seventy-five years old, but he says he has neither ache nor pain in his body.

Major Chappell went into the army with his father and his brother. His father was sixty years old when he enlisted. At Shiloh Major Chappell, without consulting his father, procured the discharge of his parent, for he thought that it was too hard to have a father who had given two sons to the cause subject himself to army life. The elder Chappell was deeply offended at the act of his son. He went back to his home in Ohio, but remained only a few weeks, when he again enlisted in the Union ranks and served until the end of the war.

"You see," said Major Chappell, in explaining his action in having his parent sent home, "my father scarcely had teeth enough to bite off the end of a cartridge. He would chew away with his old roots like a man who had hold of a tough piece of beef, and the captain of our company and myself thought it was too bad. But you ought to have seen the fire in his eye as finally he got the cartridge ready for the barrels of his musket, then he would ram it home as if the life of the

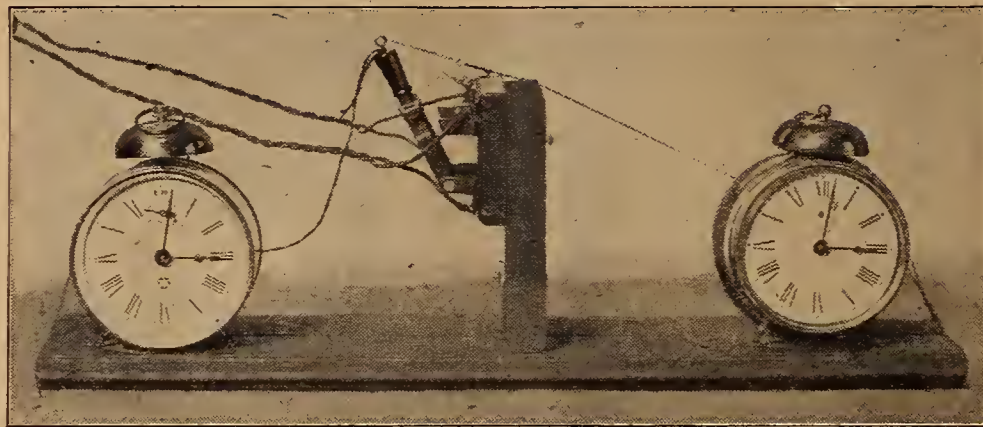


whole nation was dependent on him. My father was a Methodist with a very strong religious inclination. When he would pull the trigger and drop his musket he would close his eyes, turn his face heavenward and say, 'May the Lord in his wisdom direct that shot to the confusion of the enemy.'"

Major Chappell has nothing to say about his own bravery, but he delights to talk of the daring of the boys while

the slack is taken up and the switch is closed. The electric lamps in the window are instantly illuminated as well as if a human hand had manipulated the switch.

The other clock does a similar stunt at 9:00 P. M. The alarm is released at that time, and the pulley on the back of the clock begins to revolve. It pulls on the cord attached from the opposite side of the switch. The turn-on cord is fastened to the switch by means of a delicate wire



A PAIR OF ALARM CLOCKS HARNESSSED TO TURN ON AND OFF COSTLY ELECTRIC LIGHT

under fire. He says that in all of his experience a ten-year-old boy performed the bravest act.

In making an attempt to break through the Federal lines at Chattanooga a Confederate had been shot and left on the field across a small stream. The cries of the sufferer could be heard by the men in Major Chappell's company. His cry was for water. A youngster named Johnny Mullins, who had followed the Ohio company into the war, said he could not stand to hear that man beg for a drink, and offered to wade the creek and alleviate his suffering. Before any one could stop him he was off on his mission of mercy. The rebel forces, not understanding his brave errand, fired a fusillade at him, but he was unharmed. Both the blue and the gray could see that boy holding a canteen to the lips of the wounded Confederate. The boy rolled the man over where the rebel forces could get him and then got back safely to our lines. J. L. GRAFF.

Alarm-Clock Switch

A PHOTOGRAPHER in Ravenswood, Illinois, employs a pair of sixty-nine-cent alarm clocks to turn on and off the electric light in his studio show window. The artist is not in his shop when it comes time to turn on the light, neither is he there when it is time to turn it off, and it is expensive to allow it to burn all night, so he contrived a mechanism to do both stunts in his absence.

He soldered small pulleys on the back end of the alarm spindles in the clocks. He screwed the rims of the clocks to a short board, one on each end, and fastened an electric switch in the center. One of the clocks is set to release its alarm at 7:00 P. M. The pulley, on which a stout cord has been fastened, commences to wind. The other end of the cord is attached to the handle of the switch, and as the pulley wheel turns,

hook of such tension that when the turn-off clock begins to work, the hook spreads and releases the cord from the turn-on pulley. Then the turn-off pulley continues to wind, until the cord pulls the switch out of contact, and the lights in the window go out. It thus costs less than one dollar and fifty cents to save hundreds of dollars' worth of electric light. All that is necessary to do to have the clocks repeat the stunt is to wind them and to readjust the tiny hook on the turn-on cord.

The invention is that of Warren J. Scott. J. L. GRAFF.

A House Built of Rock Salt

ON Darby Dry Lake, one of the several desert areas adjacent to the famous Death Valley of California, is a house built of pure rock salt—a curiosity that attracts a great deal of attention from the few who travel this barren expanse. This peculiar house was built seventeen years ago—in 1890—and to-day it stands as intact, or more so, as it did when first completed. It was built by laying the blocks of salt in a wall, and pouring over them brine from a shaft, which served instead of mortar and cemented the blocks securely together. The joints are as strong as any other part of the walls. Drifting sand has settled around the house during the seventeen years, until it seems considerably lower than it once was; otherwise it remains the same.

Darby Dry Lake, like much of the surrounding area, is covered with crusts of salt and soda, both in paying quantities. Preparations, by the way, are now being made to convert the latter into marketable products, by a company of Los Angeles, California. The area, in fact, is so pregnant with alkali that no vegetation, except of the desert variety, grows, and consequently the country still possesses no building material more plentiful than rock salt. CHAS. ALMA BYERS.



THIS HOUSE IS BUILT OF PURE ROCK SALT, AND IS LOCATED ON DARBY LAKE, CALIFORNIA

The Oldest Person in the United States

MRS. MARY WOOD, of Hillsboro, Oregon, lays claim to being the oldest person in the United States, if not in the world. It is certainly doubtful if authentic proof could be produced to verify statements that may be made in regard to men and women older than Mrs. Wood, who has "the documents" to prove that she is as old as she claims to be. There are existing records to prove that she was born in Knoxville, Tennessee, on the twentieth of May, in the year 1787, so that she is now one hundred and twenty years old. There are also in existence records to verify her statement that she has been a member of the Methodist Episcopal Church for one hundred and eight years, and she is proud of the fact that she is still a member "in good and regular standing" of that religious body. She is one of the pioneers of Oregon, having gone to that country when she was but sixty-five years old, and of course she had to take the long journey in a wagon, as there were no railroads to Oregon from Tennessee at that time. She has an unimpaired memory and is more active than are some women of half her years. Whether it is desirable to live to such an extreme age is a mooted question; but the old saying that "life is sweet" seems to be true at any age, and as Mrs. Wood is in very good health, she is not very eager to exchange mortality for immortality. FELIX FAXTON.

The Emancipation of Women

MARGHERITA, the handsome ex-queen of Italy, according to a recent interview, is absolutely opposed to the so-called emancipation of women. She says:

"In whatever condition of life a woman may be placed, her first duty is the negative one of not giving up the qualities which distinguish her sex. Poor or rich, high or low, a woman should be so educated as to contribute to her own needs and requirements and to those of her



MRS. MARY WOOD, SAID TO BE THE OLDEST PERSON IN THE UNITED STATES

family. She should not associate unservedly with men, nor should she meddle in politics, as the word is broadly understood. Above all, she should guard against developing the traits of men."

Honesty of a Poor Widow

ABOUT a hundred years ago a widow at Lisbon tried several times to get an audience with the king, by going daily to the antechamber of the court. She was as often ordered to retire, but always returned the succeeding day, saying she must speak to the king. At length she one day saw his majesty passing by, when she immediately advanced toward him, presented a casket to him and spoke as follows: "Sire, behold what I have discovered among the rubbish of some of the edifices ruined by the great earthquake in 1755. I am a poor widow, and have six children. That casket would relieve me from great distress, but I prefer my honor, with a good conscience, to all the treasures in the world. I deliver this to your majesty as the most proper person to restore it to its lawful possessor and to recompense me for the discovery."

The king immediately ordered the casket to be opened, and was struck with the beauty of the jewels which it contained, after which, speaking highly in praise of the widow's honesty and disinterestedness, he assured her of his protection, and ordered twenty thousand piasters to be immediately given to her. His majesty further ordered that proper search should be made to discover the real proprietor; and, if their researches should prove fruitless, that the jewels should be sold and the proceeds given to the widow and her children.

The Farmer's Wife

You may talk about your heroes upon the battle plain,
Your noted men and women who handle brush and pen;
To me the most deserving of glory in the strife
Is the busy, cheerful, motherly, kind-hearted farmer's wife.

She may not dress in satins, nor flourish gems galore—
Never studied Greek nor Latin, nor lots of other lore;
But "mother" is the mainspring of many a farmer's life;
She knows the art of home making—the cheery farmer's wife.

The kindly light within her eyes outsparkles many a gem;
Ask her healthy boys and girls what "mother" means to them;
You'll find that "Mother knows just how" to brighten each young life
Like a ministering angel—the unselfish farmer's wife.

From early morn till late at night no idle time is hers,
With cooking, baking, mending and a thousand other cares;
The love of home and family—the dearest things in life,
We find it well developed in the happy farmer's wife.

How oft we hear repeated the words of truth so full:
"The hand that rocks the cradle is the hand the world doth rule."
The manly boys from many a farm gain highest ranks in life,
So the backbone of the nation is the busy farmer's wife.

And when, at last, we launch our bark into eternity,
In the home for the true and faithful this sight our eyes may see
On the highest seats in glory, not the noted in this life,
But many a patient, here remote, hard-working farmer's wife.
—Madge T. Tyler in Farmer's Guide.

Pickups From History

A BENEVOLENT WIDOW

SEVERAL years ago a poor widow had placed a smoked herring—the last morsel of food in the house—on the table for herself and children, when a stranger entered and solicited food, saying that he had had nothing to eat for twenty-four hours. The widow hesitatingly offered to share the herring with him, remarking at the same time, "We shall not be forsaken or suffer deeper for an act of charity."

As the stranger drew near the table and saw the scantiness of the fare he asked, "Is this all your store? Do you offer a share to one you do not know? Then I never saw charity before. But, madam, do you not wrong your children by giving a part of your morsel to a stranger?"

"Ah," said she, with tears in her eyes, "I have a boy, a darling son, somewhere on the face of the wide world—unless heaven has taken him away—and I only act toward you as I would that others should act toward him. God, who sent manna from heaven, can provide for us as he did for Israel; and how should I this night offend him, if my son should be a wanderer, destitute as you, and he should have provided for him a home, even as poor as this, were I to turn you unrelieved away."

The stranger whom she thus addressed was the long-absent son to whom she referred; and when she stopped speaking he sprang from his feet, clasped her in his arms, and exclaimed, "God indeed has provided just such a home for your wandering son, and has given him wealth to reward the goodness of his benefactress. My mother! Oh, my mother!"

HEROISM OF ELIZABETH CAZOTTE

The name of this heroine has long been familiar in the annals of France. During the French Revolution, which endangered the lives of so many parents, filial affection, rising higher than selfish considerations of safety, might be seen in many interesting forms. Daughters then subjected themselves to every indignity in their endeavors to alleviate the sufferings of those who were dearer to them than life itself; kneeling at the feet of their inhuman persecutors they besought some mitigation at least of their parents' sentence, and if unsuccessful in these efforts, shared their prison and voluntarily partook of their unhappy fate. Of such was Mademoiselle Cazotte. She was an only child, and at the beginning of the revolution her father was seventy-two years of age. Letters belonging to Cazotte were found on the person of another, after which he was arrested, together with his daughter, and sent to the prison of the abbey. Shortly afterward, the daughter having been pronounced innocent, an order for her removal was issued. Elizabeth, however, refused this offer, being resolved to share her father's fate, and she succeeded in obtaining permission to remain with him.

IN A MISCELLANEOUS WAY



A DOUBTFUL SELF COMPLIMENT

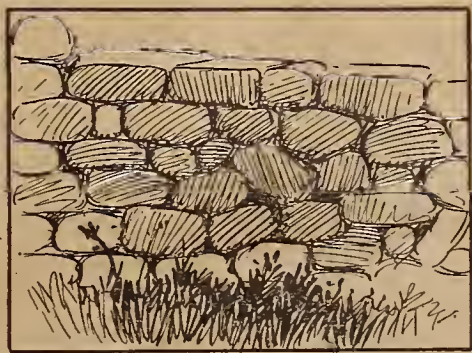
Mr. Bunny—"If I was as mean as you I wouldn't be so stuck up."
Mr. Bear—"If President Roosevelt paid as much attention to you as he does to me you'd be stuck up, too."

While in the prison, by her interesting appearance and the pathetic eloquence of her language, she was so fortunate as to interest some Marseillois, who had quartered themselves in the abbey, in her behalf. Thus for a time her father's life was safe. Soon afterward, during an interrupted massacre which had lasted three hours, a number of voices called loudly for Cazotte. At that name, which seemed to threaten instant danger, Elizabeth rushed forward to meet her father's

murderers. Her extreme youth, wonderful beauty and uncommon courage seemed to shake their purpose. One, more stern and hardened in crime than the rest, advanced to Cazotte and demanded why he had been imprisoned with his daughter. "You will find it in the gaoler's book," was the old man's reply. Two of the party being sent to examine the book, shortly returned with the tidings that Cazotte was detained as a decided counter-revolutionist. Scarcely



Nicknames of Men Prominent in American History



Answer to Puzzle in the July 25th Issue: Round, Cheek, Clod, Flank, Heart, Tail

was the report uttered when an ax was raised over the head of Cazotte. His daughter, wildly shrieking, threw herself upon him, covering him with her body, and disdaining to descend to unworthy supplications, only demanded to die with him. "Strike, barbarians," she cried. "You cannot reach my father but through my heart!" At this moving spectacle the assassins hesitated and trembled, while a shout of "Pardon! Pardon!" was heard from one individual, and echoed by a hundred voices. The Marseillois opened themselves a passage to the two victims, and the father and daughter, covered with this sacred shield, were conducted, with shouts of applause, from that habitation of misfortune and crimes.

Philosophy

A professor in philosophy was lecturing upon "Identity," and had just argued that parts of a whole might be subtracted, and other matter substituted, yet the whole would remain the same, instancing the fact that, although every part of our bodies is changed in seven years, we remain the same individuals.

"Then," said a student, "if I had a knife and lost the blade and had a new blade put in it, it would still be the identical knife?"

"Certainly," was the reply.

"Then if I should lose the handle from the new blade and have another handle made to fit it, the knife would still be the same?"

"That is so," said the professor.

"Then, in that case," triumphantly rejoined the student, "if I should find the old blade and the old handle, and have the original parts put together, what knife would that be?"—Independent.

A Girl and a Picture

[CONTINUED FROM PAGE 13]

Next evening at sunset I went to Glenwood, the Lindsay place. Doubtless an eager lover might have gone earlier; but an eager lover I certainly was not. Probably Anne was expecting me and had given orders concerning me, for the maid who came to the door conveyed me past the parlor to a little room behind the stairs, a room which I felt instinctively, as soon as I entered it, was a woman's pet domain. In its books and pictures and flowers it spoke eloquently of dainty femininity. Somehow, it suited the letters. I did not feel quite so much the stranger as I had felt. Nevertheless, when I heard a light footfall on the stairs, my heart beat painfully. I stood up and turned to the door, but I could not look up. The footsteps came nearer; I knew that a white hand swept aside the portière at the entrance; I knew that she had entered the room and was standing before me. With an effort I raised my eyes and looked at her. She stood, tall and gracious, in a ruby splendor of sunset falling through the window beside her. The light quivered like living radiance over a dark proud head, a white throat and a face before whose perfect beauty the memory of Dorothy Armstrong's laughing prettiness faded like a star in the sunrise, nevermore in the fulness of day to be remembered. Yet it was not of her loveliness I thought as I stood spell-bound before her. I seemed to see a dim little valley full of whispering pines, and a girl standing under their shadows looking at me with the same great grayish-blue eyes which gazed upon me now from Anne Lindsay's face—the same face, matured into perfect womanhood, that I had seen ten years ago and loved—aye, loved—ever since. I took an unsteady step forward.

"Anne! dear heart," I said softly.

When I got home that night I burned Dorothy Armstrong's photograph. The next day I went to my cousin Tom, who owns the fashionable studio of Croyden, and binding him over to secrecy, bought one of Anne's latest photographs from him. It is the only secret I have ever kept from my wife. She does not know that for a little while I was partially false to her memory and let my fancy curl its tendrils about another woman's face. Peter, thank goodness, can't blunder into any awkward revelations.

Before we were married Anne told me something.

"I always remembered you as you looked that day under the pines," she said. "I was only a child, but I think I loved you then and ever afterward. When I dreamed my girl's dream of love your face rose up before me. I had the advantage of you that I knew your name—I had heard of you. When Peter wrote about you I knew who you were. That was why I agreed to correspond with you. I was afraid it was a forward—an unwomanly thing to do—but it seemed my chance for happiness, and I took it. I am glad I did."

I did not answer in words, but lovers will know how I did answer.

THESE CONSTITUTION REFORMING DAYS

THESE Constitution reforming days hold omens of promise and a warning: Promise because of the awakened consciousness that conceptions which suited people years ago do not meet modern requirements; encouraging, in that out of the turmoil of exposures that have sickened the heart there comes determination to right them in an orderly way; warning, not to engraft in the organic law of a state that which prevents the logical growth of ideas.

Men may support as voters what they will disregard as men, after experience has taught them their folly. Wrongs become a stench before the public is sufficiently awakened to correct them. Then indignation is so intense that judgment has little sway, and a law is enacted in the heat of passion which will soon prove unwise.

If men had more self-trust and faith in the permanency of the laws of Nature and of human nature; if they realized that their experiences and desires were common to all in a greater or lesser degree, there would be fewer mistakes made in constitution making, and there would be less suffering under unwise restrictions.

The love of power, of self-preservation and of justice as a check and balance to these two is deep bedded in the human mind. The good of the state demands that the individual shall be encouraged to develop every capability. Power grown arrogant needs checking for the good of the individual and the state, but legitimate growth should be encouraged. If people could only learn self-reliance, self-reverence, self-confidence, they would carefully guard against placing mandatory legislation in a constitution and leave it so that it would provide for the enactment under it of just laws that would meet the approval of awakened conscience and modern conditions.

We are gaining a higher appreciation of that selfishness which is so enlightened that it sees that the good of each is bound up in the good of all. We are far, far from the millennium, but let us have faith enough in humanity and the law of God to leave fetters to progress out of our constitutions. The people are gaining greater power through the convention, the primaries, the initiative and referendum. Let them have a chance to work out their own destiny.

AGRICULTURE THE BASIS OF EDUCATION

Mankind has long recognized the fact that agriculture furnishes the material basis for civilization. We continue, however, to forget, writes Mr. O. F. Cook in the "Monist," that it is "no less truly the basis of intellectual and social development."

"By no system or method of formal education can children confined in city houses, doorsteps, paved streets and schools be brought to their full mental stature; the chances are even smaller than that their bodies will develop fully under these unnatural conditions. There is no substitute for direct contacts with Nature and with the parent generation on the intellectual side any more than on the physical."

As to the capacities in agricultural study for mental progress, Mr. Cook says:

"The mental conditions of agriculture are just as essential to the normal development of the human mind as air, food and exercise for the development of the body. Nature is highly complex, and also exceedingly fine grained; it is only in contact with this multiplicity of fine-grained facts of Nature that fine-grained perceptions are developed by the child. Sensitive feelings there may be, and even supersensitive, without such contact, just as vegetables in the cellar may send out stems much longer than in the garden, though pale and spindling. Human culture when set apart from Nature is only a hothouse plant unable to maintain, justify or enjoy its own existence. Much less does it furnish a true basis of judgment in the study of the general problems of human development."

This writer admits that "solitude and Nature contacts are not enough."

"Human associations there must also be if a worthy picture is to be painted on the background which Nature can prepare. Farm life is often not merely rude, but sordid, and very unfavorable for the continued development of the higher human qualities. But this barbarism still lingers among us largely because we have relied too much on formal education, instead of perfecting the other arts of life. As schools are now, the development of talent in the country lad, instead of qualifying him to work an improvement in the home community, usually makes him only an easier recruit for the sterile and degenerate existence of the city."

The ideal education, we are reminded, results in full development.

The Grange

BY MRS. MARY E. LEE

"Education is not, primarily, a matter of schools and systems of formal instruction, but of maintaining the contacts with Nature and with the preceding generations. Institutions which weaken these contacts are not truly educational, but have the contrary effect of arresting the development, both of the individual and of the race."

THE OBSERVATORY

National Master Bachelder, National Lecturer Gaunt, Professor Voorhees and Institute Lecturer Geo. W. Williams will speak at the summer agricultural school at Cape May.

If men would only trust their individual experiences as omens of rare import, and their desires as Nature's provocations to nobler endeavor and higher usefulness, their capacity for happiness would be increased.

National Lecturer Gaunt spent several weeks in Maryland in extension work; Vermont has National Organizer C. B. Hoyt helping it to roll up a large membership, while other Eastern states are working hard to place a Grange in every town.

Hon. C. B. Kegley, Master Washington State Grange, is enthusiastic over the initiative and referendum and urges upon the people greater political activity. His splendid enthusiasm is bearing fruit in organizing new Granges, in enlarging membership in the old, and in training the people to better citizenship.

Pennsylvania and Ohio have enacted a minimum salary law for common school teachers of forty dollars a month. This is a step in the right direction. Pennsylvania provides for a minimum wage of fifty dollars a month for a teacher who has a professional, permanent or normal school certificate and has had two years' experience in teaching.

State Master Derthick is a member of the subcommittee of four on Primary Election Reform, to draft a bill to present at the next General Assembly. To secure popular election of United States senators the bill will provide for the placing of the name of the candidate for senator under the name of the candidate for representative. This will place the elected member under obligation to vote for the choice of the majority. The bill also provides for election of all officers through primaries, thus doing away with county and state conventions.

One of the most popular topics at the annual meetings of Farmers' Institute directors is that of the qualifications of speakers. If the farmers had a chance at these meetings they would very likely say that the speaker who has a magnetic personality, good judgment, a story to tell, graphically yet briefly, without too many attempts at wit, whose intelligence is superior to that of his audience, who can give practical help in the matter of marketing produce, and a safe, sane method of handling public questions as they affect the farmer, is the one in demand.

"The census of 1890 shows," says Thomas Mosby, Pardon Attorney for Missouri, in the July "North American Review," "that out of the 52,894 convicts, 31,426 were ignorant of any trade. In one of the largest reformatories, where 3,154 names had been enrolled in the last few years, not one had any knowledge of trade or profession. In the largest penitentiary in the country where above 2,000 convicts are always confined, about sixty-five per cent have no knowledge of a gainful occupation. In this prison the factory system prevails, and less than fourteen per cent of those working return to criminal life."

The true function of education is to produce a high type of citizenship. It must fit its possessor to earn and to save, to spend strength and its results wisely; to so employ imagination and reason that one may find delight in the manifold creations of Nature, and to act judiciously in the varied activities of life. What the school begins for the boy and girl on the farm the Grange should round out and complete. Life might be so much more beautiful and sublime and yield a larger increase in human efficiency if we were only willing to concentrate the mental activities on those functions of the mind which make competent material producers, and which give us the power to employ the hours of leisure in a way that will bring great happiness.

It is a great pleasure to see the increased attention given in Grange and

other organizations to the study of economic questions. These columns have urged this for years. It is folly to say that general intelligence will suffice in the solution of problems which vitally affect the welfare of a nation. There must be specific study of each question in its relation to all industries and to all other questions. Those who know the least on a proposition say the most, and the popular appeal to the "people" instead of to "reason" has done more to fasten conditions which foster graft and corruption than any other thing. I firmly believe that the destiny of our country depends upon the intelligence with which the organized farmer acts on public questions.

"There are a hundred reasons for parcels post and six against it—the Adams, American, Pacific, Wells-Fargo, United States and Southern express companies," said John Wannamaker several years ago. The recent dividend of two hundred per cent by the Adams, in addition to the regular eight per cent, is not destined to allay agitation for parcels post. The dividend was \$24,000,000. In 1898 it declared a dividend of one hundred per cent, and these enormous profits are on the lightest part of the freight carried by roads. The stock of the express companies is owned largely by large railway magnates. The small stockholders receive their dividends on the heavy freight. There will be determined effort by the Grange at the next Congress to secure a just system of parcels post.

The child-labor agitation will result in laws in most of the states. While it is detrimental to the child to work until very tired, until he was unable to use his mental powers, and brutal and inhuman to force him into such habits of labor as will preclude establishing habits of thinking, yet there is also danger of carrying the point too far and bringing upon us the equally dangerous condition of child idleness. A great deal of the agitation has been fostered by labor unions and by politicians, who are quick to wear the cloak of righteousness when so doing will bring them gain. Let sound sense rule in this most delicate subject. Let every child have every possible opportunity for developing the best there is in him and form in him habits of mental as well as physical thrift, but do not place upon him the curse of idleness.

A great cry is going up all over the country for better schools and against our present school system. Boston has 30,000 pupils in private schools, more than one third of her school population, yet Boston's public schools are among the best in the country. One trouble has been the building of splendid buildings and the starving of teachers. We can never get away from the fact that the teacher is the living, vitalizing force of the school.

"A college is a log with Mark Hopkins at one end and the student at the other." We have followed exactly the opposite theory—have built magnificent school buildings, but starved the teachers, until their ranks have thinned; have forced some of the very best vitalizing blood of the people into other occupations because of the poor pay of teachers.

My friends, it is not the teachers who should raise the cry for better pay. It is you. Your children must take the consequences. If ability is driven from the schools, if training is impossible on the low wage, there will still be teachers, but not of the sort that gives fire and force to the youth. Insist on better pay for teachers and professional training. Insist that the laborer shall not only be worthy of his hire, but worth his hire. There is enough money spent on our schools, if equitably distributed, to give us far better than we now have, but there must be professional training of, and better pay for, teachers, supervision of schools, and more attention given to the man or woman who trains the intellect, than to the rich housing of the pupils.

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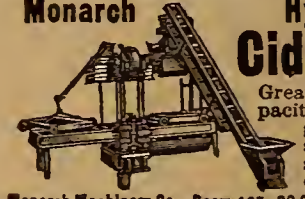


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ENGLISH STRAWBERRIES BY THE TON

IN England July is the month of strawberries. To supply the British capital with this fruit is no small enterprise, as can be seen from an interesting article in a recent number of the English "World's Work" (London). Hampshire and Kent are the main strawberry sections of England, particularly the country in the immediate vicinity of Southampton. There is something in the soil of this district peculiarly favorable to the cultivation of the little red berry. To quote the words of the article referred to: "So great has been the increase in the production of the fruit in recent years in this little corner of Hampshire, that the London & South Western Railway Company has thought it worth while to open a new branch line right through the districts mostly favored by the growers. . . . Southampton itself has of course long been unable to consume the huge quantities of fruit produced at these various places, and Hampshire strawberries now find their way into nearly every large town in the Kingdom. London takes about half of the annual crop. . . . During the height of the season, when picking goes on uninterruptedly from daylight until dusk, the railway company finds it necessary to despatch no fewer than six special trains a day, each of which, once it has collected its complement of vans at the different stations, is sent away at express speed to London without a stop. Special vans of patent design are provided by the company, the interior being so arranged that the fruit, which is packed in handle baskets containing, roughly speaking, five to six pounds of fruit apiece, shall receive as little jolting as possible. Some of the baskets are suspended from the roofs of the vans and the others are set close together on shelves. In times of great pressure ordinary passenger carriages have been utilized to take the fruit, an ingenious arrangement of movable shelves being adopted on these occasions. . . . The bulk of the crop varies greatly year by year, the most important factor in the matter being the much-dreaded spring frosts, which nowadays seem to occur with exasperating regularity even so late as June. On the second day of that month last year a severe frost did untold damage in the Southampton neighborhood. But even in a moderate season, making due allowance for damage by frost, and a frequent absence of sun during the most critical period, the crop carried by the company, which has a monopoly in the traffic, amounts annually to about 1,500,000 baskets, or a total weight of some 3,400 tons!"

IMPROVING LAWNS

It has been truly said that "A thing of beauty is a joy forever."

What is there that helps more to make a home attractive and pleasant than a well-kept, green lawn, which, wherever situated, whether in the country, village or city, is admired by all who see it?

With proper effort and care there are but few dwellings around which the ground can be transformed into a beautiful velvety lawn with little labor and expense.

Let me tell the readers of the good old FARM AND FIRESIDE how a lawn I know of was transformed from an unsightly piece of ground to a nice, green, level grass plot in a short time. It has received many very favorable comments from neighbors and others who have noticed the change.

The property had been rented for a number of years, and as generally the case, there were a number of abandoned mounds that had been thrown up for flower beds on different sides of the dwelling. These of course had more or less brick and stone in and around them, with plenty of weeds of various kinds, among which was a liberal supply of broad-leaf plantain, which had filled the ground with seed.

Early in the spring, before the grass had fairly started growing, with the aid of a crowbar, a spade, a hoe, a wheelbarrow and a lawn rake, together with willing hands, the brick, stone, limbs, sticks, etc., were removed and the mounds leveled, filling the holes made by removing the brick and stone. Any soil not needed to level these places was used to fill other uneven surfaces, as was the soil taken from any other ridge or high place that was necessary to cut down to proper grade.

When this was done, lawn grass seed was sown on these spots and raked in lightly with the lawn rake. Where the old sod was not covered too deep, the grass soon came up through it very nicely.

In mowing it, some uneven places were found that had been overlooked. Dirt from an adjoining field was used for filling these, over which grass seed was scattered, which soon came up nice and green.

Care was taken not to mow too closely, and often enough so the clippings could be left without being unsightly, which, when decayed, helped to fertilize the plot. Bone meal or wood ashes made an excellent fertilizer for the lawn.

When a thistle or dock appeared, as they occasionally did, they were cut off with the spade about two inches under the surface, the dirt raised without removing the spade, until the root was in plain sight, on which a liberal amount of barrel salt was sprinkled. The spade was then withdrawn, letting the dirt fall back over the salt and root, and pressed firmly with the foot.

Each spring, when the ground was honeycombed by frost, grass seed was scattered, and again about the first of August, to take the place of the plantain and other weeds killed out by the mower.

A sixteen-inch mower was used. Now, I think a twenty-inch mower could be used with less effort than the other was at first.

About the first of August is also a good time to put a lawn in good order, so it will get a good start before freezing weather. If it is likely to get too rank a growth, do not hesitate to mow it.

A. W. STILES.

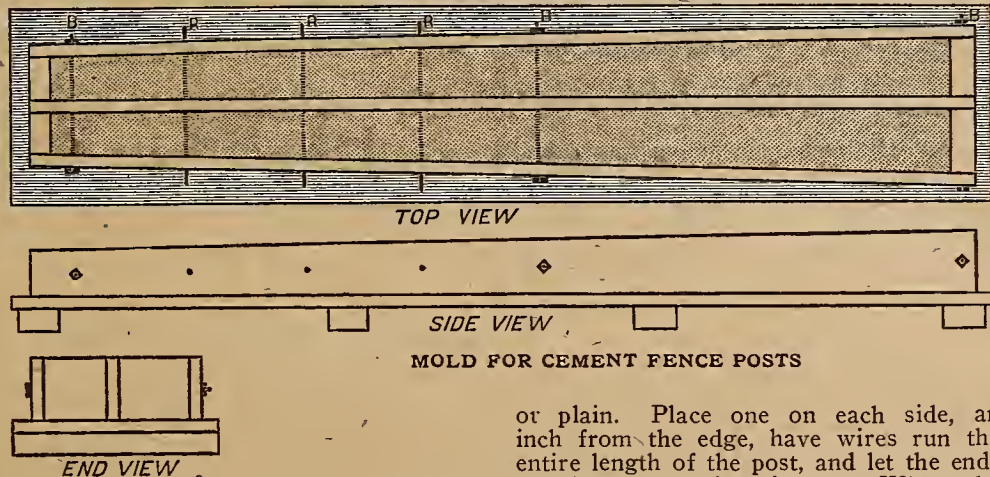
CONCRETE FENCE POSTS

Now that it is becoming a difficult matter to get good fence posts of wood, the farmers are likely to use concrete posts. These may be purchased ready made, or may be made at home at odd times, and a part of their cost saved.

To make posts of suitable size for an ordinary fence you will need one barrel, which is four sacks, of cement for each twenty-five or thirty posts. The amount of cement needed depends, of course, on the size and length of the posts, and also on the character and quality of the other materials used. Where good coarse, clean sand and gravel of proper sizes is to be had, less cement will be required than where these are not so good.

Perhaps the best material to mix with the cement is gravel of varying sizes. This should be screened, so that the finer and the coarse particles may be combined in the proper proportions. Concrete for posts should be mixed—one bushel of cement, two and one-half of sand and four or five of the coarse material. Crushed or broken stone may be used for the coarse aggregate, but crushed stone should be screened, to remove the fine dust.

You will need to have a good, solid foundation to place the forms, or molds, on. A cement floor would be a good place, or a plank floor will do, but the molds must be some place where they need not



be moved for several days after they are filled with concrete.

There are many styles of molds. They may be bought made of iron, but the man who wishes to make a few posts each year can make the forms for them out of lumber. The side pieces should be six inches longer than the posts are to be, so that a three-inch block may be fastened at each end. They may be made of inch lumber, but thicker stuff would be better. If it is desired to have the posts taper on all four sides, these pieces must be made tapering, to correspond with the desired shape of the post. Posts may be made to taper on two sides by placing the forms closer together at one end than at the other. Five or six inches square at the bottom and three or three and one half at the top is about the right size to make them.

There must be some provision made for fastening the fence to the posts. If you wish to have holes in the posts for this purpose, it is easily accomplished. Bore some half-inch holes through the side pieces of the molds where you want the holes in the posts. There should be one near the top, and the rest should be placed according to the style of fence to be made. Iron rods are to be put through these holes and removed before the concrete has hardened. If bolts are used in these holes in the forms, they will serve to form the holes in the posts, and

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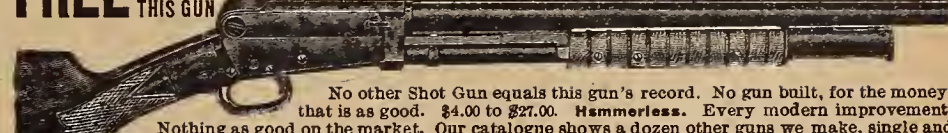
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also to hold the forms together. The bolt at the bottom may be put through the block, so it will be out of the way. If thin lumber is used for the forms, so that it is likely to spring out of shape, put large washers on the bolts. If you have a suitable platform you can make two or more posts side by side, and so need less lumber for forms.

Mix the concrete so it is just wet enough to pack solidly into the mold. It must be tamped well to secure good results. When there is an inch of concrete in the form put in the re-enforcement. This may be old wire, either barbed

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THE GERMAN FOREST SCHOOLS

THE educators of the Fatherland, the most practical and sentimental of people, have inaugurated a forest school for the benefit of children who are not sufficiently strong to endure tuition in the ordinary classroom. The results so far obtained have more than justified the experiment. In the "Centralblatt für Allgemeine Gesundheitspflege" of Bonn, Doctor Schaffer describes the two institutions which are now representative of the movement.

The first of these schools is to be found at Charlottenburg, and we cannot do better than quote the words of the mayor of the city in reference to the purpose and character of the establishment. This gentleman says that in the German schools there are many pupils of both sexes whose state of health positively demands that they be not taught in the ordinary classroom with other pupils.

"For the category of children the air in a classroom occupied by fifty or more pupils is particularly unsuitable even under the best of conditions, the rest periods are too short, and the demands of a four or five hour day are too great for them to keep at their work with attention. These children are mainly those with lung trouble, heart disease, anemia and scrofula—children who are not sick enough to be put in a hospital, but who are still too weak to keep pace with the strong. The continuance in a crowded classroom means for the majority that their trouble will increase, if it does not develop into something serious."

The Charlottenburg school was opened April 2, 1904, and it has been clearly proved that the pupils leave the institution in far better health than when they entered it. Further, although the period of study is limited to two hours a day, the children are not materially behind their stronger fellows, and they are able to make almost as satisfactory a showing as the pupils with longer hours. So good, indeed, have been the results that the original establishment has been recently enlarged, and 240 children are now attending the daily classes.

A new forest school was opened May 28, 1906, at München-Gladbach, and now fifty children are taking their daily instruction under the trees. The Gladbach school is located some little distance from the town in the Hardter forest. The school is entirely surrounded by trees, and it is built in the form of a northern blockhouse.

"The building contains three rooms—classroom, small room for the teachers, and a large covered hall—and a small cellar does service as a storeroom. About sixty feet from the house is a smaller building in the same style of architecture as the larger, and here are located the closets and washrooms. The large classrooms contain all the paraphernalia of the school-room, but the real school work is done under the tall pine trees, where desks and benches are installed."

Only when the weather makes outdoor instruction impossible is the house used. In addition to the course of lessons, however, the children are taught all sorts of games and gymnastic exercises, so that plenty of movement is assured. The course of instruction is divided up as follows:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 9:30... Religion.	German.	Mathematics.	Religion.	Mathematics.	German.
9:30 to 10... Exercise at this hour every school day.					
10 to 10:30... Mathematics.	Natural history.	German.	Mathematics.	Natural history.	Mathematics.
10:30 to 11... Exercise at this hour every school day.					
11 to 11:30... History.	Mathematics.	Writing.	History.	German.	Writing.
12... Lunch.					
1 to 3... Rest on benches under the trees every school day.					
3 to 3:30... Singing.	German.	Gymnastics.	Singing.	German.	Gymnastics.
3:30 to 6... Walking or playing every school day.					
6... Milk at this hour every day.					
6:30... Walk to tram station.					

At Gladbach the children are selected by the public-school physician, and all children are excluded who have serious heart or nerve trouble and infectious or repulsive diseases. There is also a daily charge of ten cents for each child, this sum including the trip to and from the city by tram, the second breakfast, lunch, tea, and milk at six o'clock.

WHY CO-OPERATIVE HOUSEKEEPING FAILS

For some fundamental reason communal housekeeping has never proved a success. Perhaps this is owing to the fact that it assumes a capacity in families for common responsibility and common action; in other words, in making "housework" the basis of the family relation and organizing different families in harmony thereon. In "Harper's Bazar" Charlotte Perkins Gilman shows the vice of their position in a hopeful, original way.

Those who favor co-operative housekeeping she designates co-operators, and those who follow the ancient custom, isolators. "Both parties are right," says she. "The isolators, because they uphold

an institution grounded on essential human needs, and refuse to give it up even for admitted material advantages; the co-operators, because they clearly see disadvantages which are becoming a deadly menace to society, and some of the reasons for them. The trouble with the isolators is that they will not admit the possibility of growth and improvement in their beloved institution, will not hear to reason, will not study conditions, make reasonable experiments, or do anything but maintain the sanctity of the home, on the one hand, and wail about the difficulties of housekeeping on the other. The trouble with the co-operators is not so serious. They have dared to look ahead, they have been strong enough to defy old habits, they have worked out a plan of improvement, and have been willing to try it."

In this plan, however, co-operators fail to distinguish that while work done in a home may be organized, the families themselves may not. They believe that what has been difficult and expensive for a single family becomes easy for many families. This the writer considers pathetic and amusing. Home and housework are not synonymous. Love is physical and psychological, marriage is social; the family is physiological and psychosocial, the home is psycho-physical, but housework is industrial—a thing of an entirely different order. Individuals, not families, make a social structure. The members of a family individually mingle with others, but the family remains separate—the base of society.

"How, then," says she, "are we to harmonize the undeniable truth of the co-operator's facts with the as undeniable truth of the isolator's feelings? By leaving the separate family in the separate home, and by taking the housework out of it."

"What is needed is not convocations of discouraged families, but capable persons, skilled and trained, to do well and cheaply what is now done so ill and so expensively. Approximating that 100 families pay each \$10 weekly for cooking service, or \$1,000 in the aggregate, for about 500 persons, she reasons that fifteen cooks could do the work well and easily. These might consist of a chef at \$60 a week, two assistants at \$40 each, two others at \$30, and ten cooks at \$20 each, or \$400 for the lot—a saving of sixty per cent in wages, and a raising in the standard of cooking at the same time. The kitchen must go, in order to bring about such an undertaking, and "distributing kitchens" be organized to supply the private dining room, which must remain. The essence of the change would be in the purchase of cooked foods instead of raw materials.

The quality of service would be guaranteed by systematic organization for a limited number of patrons. These kitchens should be numerous enough to employ about eight per cent of our population, and not fifty per cent as at present engaged. Rentals would not be high, and patronage would be certain and limited. Table d'hôte menus, including specialties for children, invalids, particular tastes, etc., based on scientific knowledge, could be offered, and all the trouble of "ordering" eliminated. In cities deliveries would be by dumb waiter to the pantry or dining room; in the country by overhead-trolley

service to the door—similar to the parcel delivery in our great stores. In a country place twenty families within a radius of one mile could be supplied by three cooks.

Summer resorts and summer schools are the two immediate opportunities to test this plan; while in cities, apartment houses built for this purpose would serve. Economy would follow from the purchase of food in quantity, and the quality would improve likewise. Similar projects for laundry and housecleaning could be started, to make housework a particular social function, leaving the private family in the private home, where it belongs.

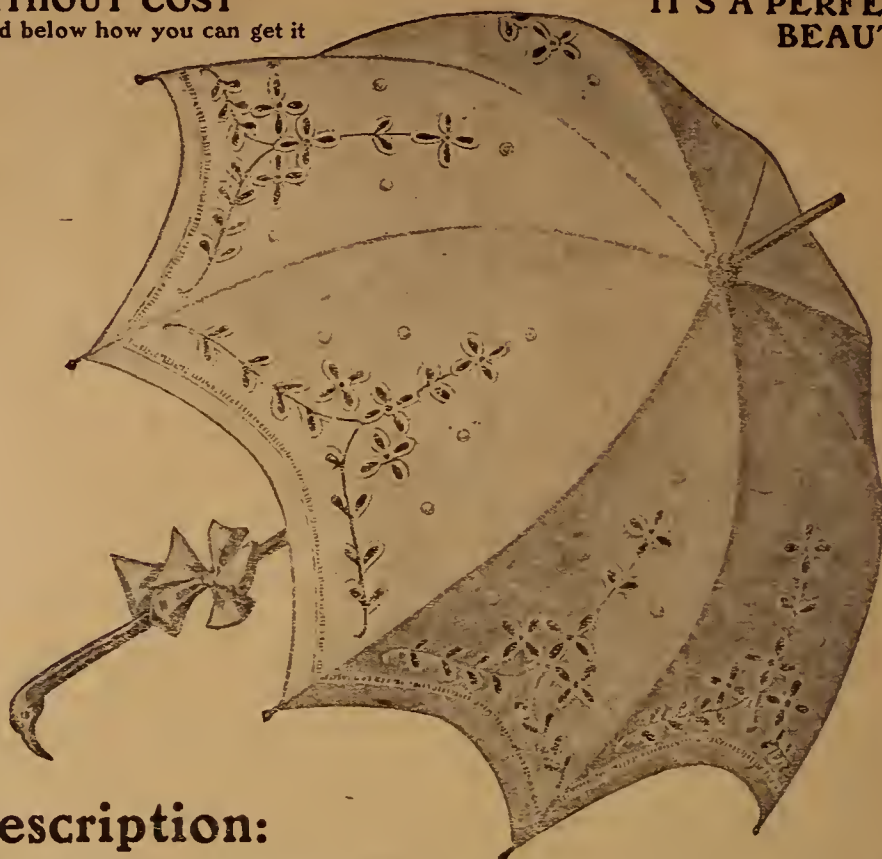
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24 NUMBERS

Butterflies and Moths

ONLY a worm! An ugly, crawling thing it is. But is there any creature more interesting? Is there anything in the animal world more wonderful than the transformation from a weak and repulsive worm to a beautiful, careless creature that seems to dance upon the sunbeams? To watch the course of life from the worm to the mature insect is not difficult. Everybody who has access to as much as a small garden has the means of observation within reach. Insects are numerous and all are interesting in their way. But none among them is more worthy of study than the worms or caterpillars which are the larvæ of the moths and butterflies.

THE DIFFERENCE

First, it is important to determine what the difference between butterflies and moths really is. Both belong to the order of Lepidoptera, which is a name derived from the Greek words "lepis," meaning a scale, and "pteron," a wing. The insects were so called because their wings are covered with minute scales, which are easily rubbed off, as those who have handled the little creatures know. In structure they are similar, both as larvæ and as mature insects.

The common notion is that the lepidoptera with brilliantly colored wings are butterflies, while the moths are more somber. This is far from the truth. Many of the butterflies are dull-colored, while some of the moths sport a variety of hues, both of wing and body, among the brightest in Nature.

How, then, is the moth to be distinguished from the butterfly? A partial answer is found in their habits. Butterflies are on the wing during daylight, rarely at night. For this reason they are often called "diurnal lepidoptera." Moths fly mostly in the dusk of the evening, at early morning or during cloudy days, so have been called "nocturnals." The distinction is not always correct, however,

Butterflies have long, hair-like antennæ with a knob or swelling at the end. For this reason they have been called Rhopalocera, a term derived from the Greek words "rhopelon," meaning a club, and "keras," a horn, so a club-shaped horn. The antennæ of moths are of various shapes, some of them merely thread-like, others resembling plumes or feathers, but more club-shaped, except a few rare genera in the tropics. The distinction holds good for all moths at present known in the United States and Canada. Therefore, moths are called Heterocera, from "heteron," meaning other, and "keras," or another kind of horn. That is, all that are not Rhopalocera are Heterocera.

There is another difference which is of assistance in studying the lepidoptera. When the moth is at rest its wings are folded against the body or lie spread out horizontally. But the butterfly on alighting holds its wings more or less erect.



FIG. 2—MOTHS AT REST, SHOWING POSITION OF THE WINGS



BUTTERFLY AT REST, WINGS ERECT.

There are some exceptions to the rule, but it is in the main correct.

Other differences there are which pertain to the structure of wing and body, but they are of interest chiefly to the scientist. The amateur can get along very well without them. His concern is with the distinctions mentioned, most of all that pertaining to the form of the antennæ.

It will at once be seen that these two forms of insect life are much alike. They are, in fact, so much so that they may be said to run together. Some tropical genera might be classified as either moths or butterflies, as they seem to be a connecting link between the two. But, as has already been stated, with these exceptions a classification is not difficult. There are other distinctions which the entomologist may ignore, but which mean much to the true lovers of Nature, to those in whom the poetical fancy is not benumbed by hard, unfeeling science. For them the butterfly is the haughty patrician of its race, scorning the earth as scarcely fit to tread upon, but whose life is spent in frivolities. The moth is the humble pheblian. Modest and unassuming, it is one of those that do the world's rough work, for good or evil.

EGGS

The eggs of the lepidoptera vary as greatly in size and shape as the insects themselves. Some are globular, others hemispherical, cylindrical, conical, lenticular, barrel-shaped, turban-shaped and of various other forms. In color, also, there is variety, brown, yellow, green, red and blue being common. Under a microscope the eggs are seen to have ridges and depressions, light and dark spots of color and to be in other ways marked, so that they are an interesting study.

LARVÆ

The larvæ of the lepidoptera are in such great variety, both in habits and general appearance, that they afford a subject for study which is scarcely less interesting than the mature insects themselves. Some are large and formidable in appear-

ance. The tomato worm, the hickory "horn devil," which is often six or seven inches long, and some of the cecropias are enough to terrify the timid, although they are more repulsive than harmful. Compared with them some of the neonympths are mere pygmies.

Most larvæ of both moths and butterflies are phytophagous—that is, they feed upon vegetation in some of its forms. A majority is to be found on leaves, but there are some that live in fruit and a few that bore into wood, root and stem.

Among these last are some of the borers that cause no little damage in orchards and gardens. A small number are carnivorous, and by feeding on scale insects and other pests assist materially to keep them in check. There are others which feed upon cloth and various manufactured articles. So that this branch of the animal kingdom has possibilities for good or evil that are by no means small.

AN INTERESTING NEIGHBOR

One member of this great family which the novice will find it convenient to study is the celery caterpillar, *Papilio asterias*. It is to be found on several kinds of garden plants besides celery, and the mature insect is one of the commonest of butterflies, as well as one of the handsomest. There should be little difficulty in finding specimens wherever carrots, parsley or fennel are grown, in fact, in any garden. The girl or boy who will observe them for a few moments daily may learn valuable lessons regarding these little creatures.

Like others of the lepidoptera, the celery worm is very small when it comes from the egg, a small yellow sphere attached to a leaf. Less than one tenth of an inch long, black, with one white bar across the middle of the body and another at the posterior end, the back armed with projecting tubercles, it is far from a pretty creature, but is easily recognized.

However, the worm cares nothing for appearances. It is on earth to eat, and that is what it proceeds to do. The amount that it can dispose of is enormous when its size is considered. It is claimed that a full-grown, healthy caterpillar will eat double its weight of leaves in a single day. Imagine a seventy-five-pound boy eating three pecks of potatoes at a meal, and the odds would still be in favor of the worm. When it is considered how large a portion of the earth's products go to fill these little mouths it must be confessed that man's place in Nature is rather insignificant.

As the caterpillar grows its clothes become too small, whereupon it crawls

out of them dressed in a new suit. This happens three or four times. The discarded garments can frequently be found clinging to leaves or stalks. This process is called "molting." The skin splits along the back and the occupant pulls itself out.

As the celery caterpillar grows the colors change, until at maturity it is quite a pretty creature, with its bands of yellow, green and black. Such changes in color serve as a protection. In its infant days it is so small that its color is unimportant. But when it is full grown and nearly two inches long it would be too conspicuous in a dress of black and white. Its new colors enable it to pass unnoticed upon the leaves, and often serve to save it from its many enemies.

The little creature has another means of defense which those who examine it are apt soon to discover. When irritated it thrusts out just above its head a Y-shaped organ like a pair of orange-colored horns. A strong, disagreeable odor is emitted, which is suggestive of the plant on which the worm is feeding. If it is touched on the back it raises its head and discharges the scent organs in the direction of the point of attack. In this way it probably drives away certain ichneumon flies, as well as disgusts some kinds of birds.

Now that the caterpillar has finished its growth it prepares for the great change in its life. It ceases to eat and becomes sluggish. If specimens are desired they should be collected without delay, as the worm will soon leave the plant where it has fed and crawl to some secluded place for pupation.

The captives are placed in a box and covered with a pane of glass or some kind of netting, so as to keep them confined. If glass is used, a weight should be placed upon it, otherwise the worms, which are very strong for their size, will lift it and crawl out. Many an enthusiastic young entomologist has found the pets gone just at a time when they were of greatest interest, merely because of a failure to take the needed precaution. In a day or two, after the worm has

apparently satisfied itself that it cannot get away, it sets about its final preparations. First, a little knot of silk is fastened to the side of the box, and into this the feet at the posterior end of the body are hooked. The worm then clings to the box with its head uppermost. Now it should be watched carefully and with patience. It begins to move its head about. By looking closely it will be seen that a web is being spun. The ends are attached to the box so as to form a U-shaped thread. Holding to this thread

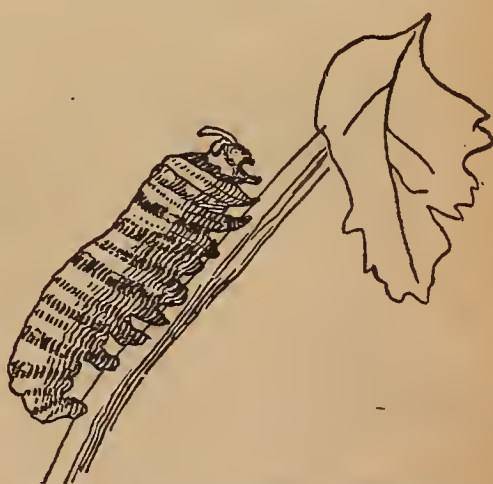


FIG. 3—LARVA OF CELERY CATERPILLAR

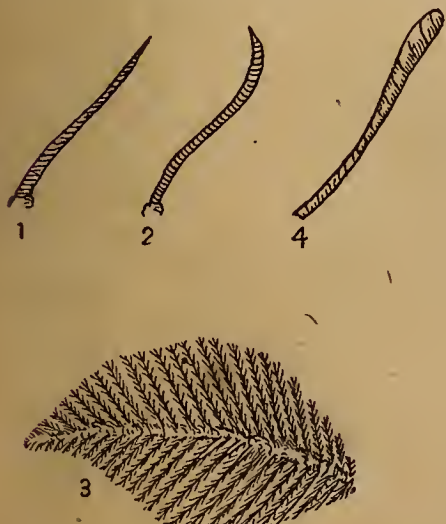


FIG. 1-1, 2, 3—ANTENNÆ OF MOTHS.
4—ANTENNÆ OF BUTTERFLY

since there are a few day-flying moths. From this it may be inferred that the butterfly is the more commonly noticed, though the moth is the more numerous and in much the greater variety, ranging in size from the little adela, with its wings that measure scarcely half an inch when outspread, to the giant cecropia, whose pinions have a reach of half a foot.

A more definite classification is that based upon the antennæ, or "feelers."

by its fore feet it passes its head about from end to end of the U. Back and forth it goes for several minutes, until the thread has been spun of the desired size and strength.

Watch closely! It cleverly ducks its head and comes up inside the U. It pushes the thread downward for a girdle against which it can lean. Its old clothes are torn open and it casts them off. It will not be long before it will have become a chrysalis, modestly dressed in pale green, brown or gray, to all appearance lifeless, kept in place by the strong silken girdle.

In from ten to fifteen days the pupa begins to show signs of life, the time depending upon the temperature. The colors of the butterfly are to be seen within the thin case. Soon the case is split open and the adult insect, or imago, comes

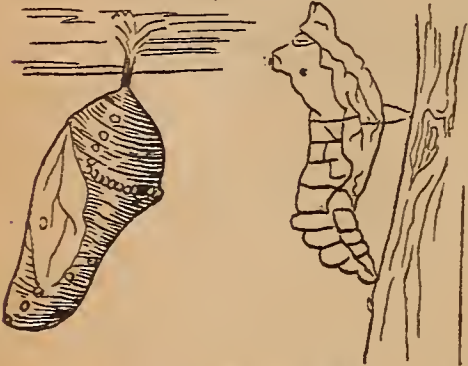


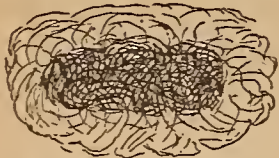
FIG. 4—CHRYSID OF MILKWEED BUTTERFLY. CHRYSID OF CELERY CATERPILLAR

forth. Weak it is at first and almost helpless. But it gains in strength as it beats its wings, until it is able to fly.

PUPÆ

The pupæ of the butterflies differ greatly in appearance. Several kinds are supported by a girdle, like that of the celery caterpillar. Some hang head downward from the under side of an object. Others form silken cocoons. Many of the pupal cases are quite prettily colored and marked; the milkweed butterfly, for example, comes from a case that is a delicate blue with golden spots. Such cases are called chrysalids.

The plain, practical moth, unlike the butterfly, is not ornamental in the pupal state. Many of the larvæ burrow into the ground and undergo the change in a hard case. Others hide in rubbish or some protected place and surround their bodies with strands of silk. It is the cocoon of



COCOON OF SILKWORM

one species that furnishes the silk of commerce. There are several others that may some day be of commercial value.

AN AUTUMN STUDY

An excellent time to study these insects is during the first weeks of autumn. The late broods of larvæ can then be collected. By keeping the pupæ in a cool place during the winter they will be ready to come forth another summer. But a warm place should be avoided, as it will soon start them into life, and they will be out in the winter, when Nature has no place for them.

The celery and milkweed caterpillars, the tomato worm and the hickory "horn



PUPA OF TOMATO CATERPILLAR

devil" are good subjects for the novice. They are to be found over an extensive range of territory. These larvæ are repulsive, but as they are large it is easy to find them and keep them in captivity. The first two are butterflies and pupate in chrysalids. The others are moths that transform in the earth, so should be kept in a box containing several inches of moist soil.

FRANK D. WELLS.

PITHY POINTS FOR FARMERS

The way of the careless farmer is hard.

There's not enough good in just "good enough."

A crooked corn row is not as bad as a crooked fence.

Zigzag rail fences are going out of date as fast as Nature can rot the rails.

Tumbled-down fences and buildings are a poor recommendation to a farm.

You will always be a small farmer until you begin to believe in larger things than your neighbors believe you can attain.

It is easy to talk of doing for our neighbor, but the test comes when we meet the neighbor who is in need of the doing.

Every man ought to be able to call hogs, but the man who has educated his hogs to respond to the tap of a bell has made progress.

Time was when a man in town laughed at the farmer, and the farmer blushed; but now the farmer has the laugh on the man in town.

To allow a small boy the privilege of catching a cow by the tail to drive her up to milk, or at any other time, is the greatest kind of an insult to the cow.

There is no place like home when it is made more than merely a place to stay. The boy who leaves the old place may be glad to return, but if the old place had been made a good home, the probabilities are that he would not have left.

W. J. B.

TIME TO PLAN FOR IMPROVED FARMING

An old farmer I once worked for said there were two times in a year when a farmer "could blow off and look about—after thrashing and after corn husking." He was a good old fellow and made money farming. I remember hearing him say: "One reads in these agricultural papers that winter is the time for the farmer to lay his plans for the following season. That's all bosh. The man who lays his plans in winter will unlay them before grass is a foot high."

Many people think that pipe-dreaming is laying plans. Winter is the time farmers pipe-dream. August and September is the time to plan a campaign for the coming year. Things are maturing and one can see what should be done—where the bulk of the manure should be spread; where the corn and the oats should go in the next spring; what stock should be gotten rid of, and which animals should be kept for breeding. He can see what the pasture needs in the matter of disking and reseeded; whether the meadow is in shape to produce a good crop of hay the following season; whether it should be thickened up with timothy, redtop or clover; while a tile drain will improve the soil and increase the yield of grass.

We are now right at the time of year when a fellow has time to think a little, and to take a three-hour nooning if he wants to. The landscape is beginning to look hazy and dreamy, and one notices that nights are getting longer, and his shadow at noontime reaches farther north. The rape in the corner of the chicken yard looks like it was getting uppish, and the fowls will soon need stilts to reach the leaves. The turnip tops in the garden look shiny, and one can't help thinking how nicely they will fit in with pork when days begin to get cooler. At present one loves to look upon the thick slices of red tomato when he comes to the table. They not only look cool, refreshing and appetizing, but they do fit in among a person's meal as nicely as does rhubarb sauce in the warm days of spring. Then about this time of the year the farmer who is properly onto his job occasionally cuts a red and juicy melon, then takes his scythe and goes to the field looking like a bloated bondholder to "work it off" in a good sweat.

THE STATE FAIR

Next month comes the fairs, and it's worth the price to attend the State Fair and see what's best in your own line. Unless one visits a good fair and takes a look at things that are sent to compete for premiums he is apt to get exaggerated ideas of the grade of his own productions and imagine that they are considerably above the top. When he sees the perfect specimens on exhibition he can mentally compare them with his own and note wherein they are lacking in size, symmetry and value. This gathering together of the very best that skilled agriculture has produced is an eye opener to those who have dropped into a rut, yet still imagine they are on high lines. In recent years the railroads have adopted a liberal policy toward State Fair visitors, and the cost of seeing these great exhibitions, which are annually attracting thousands of people from foreign countries, is not great. If foreigners think they can afford to cross oceans and travel hundreds of miles to see them and inspect the exhibits, surely we can well spend a few dollars to see what is so attractive.

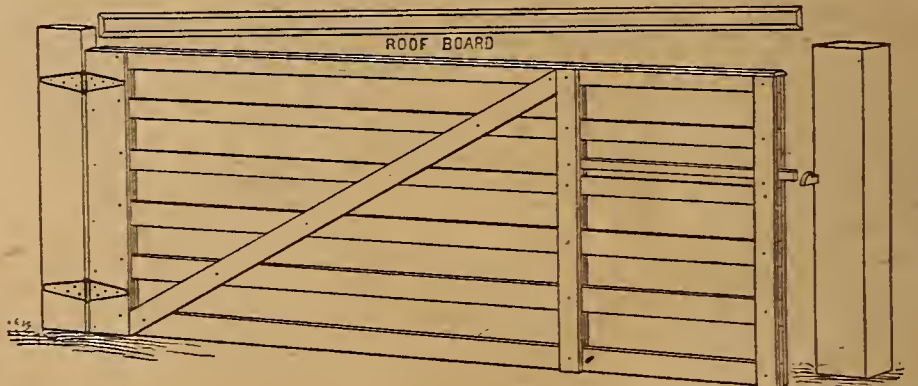
I recently had occasion to visit a town of between three and four thousand inhabitants, and while there had several chats with some of the "leading citizens." I remarked about the many, both men and women, who seemed to be tagged with badges or insignia of strange and odd

shapes bearing signs and omens that I did not quite understand. "Those," said the business man addressed, "are lodge insignia. About every man and woman in town is a member of one or more orders, lodges or societies. We have about thirty, and many people belong to a full dozen of them. Some of them are fraternal insurance societies, others benevolent or educational. You are not in it in this town unless you are a member of a few of them." I asked if it did not have a tendency to divide the people into little cliques or sets. He thought it did to some extent, but about the only real harm that he could see in it was the large amount of money annually taken out of the town by the grand chiefs, head centers or high manipulators. He said many of his friends annually paid as dues, assessments, etc., over a hundred dollars each, and from that up to three hundred dollars. I wondered what some of our hard-headed old farmers who wince over the cost of a trip to the State Fair, or a little outing to some great natural wonder, would think about being annually mulcted one or two hundred dollars for the privilege of wearing a queer badge and holding a secret meeting once or twice a month with a bunch of their fellows and going through a "ritual."

AVOID SPECULATORS' SCHEMES

I have a letter from an unfortunate. He had saved up about six hundred dollars, so he says, and he received a letter from an oil company accompanied by a flaming prospectus wherein was set forth the grand opportunity they were offering him to come in on the ground floor of their proposition and get wealthy in a few years. It showed how Rockefeller and some other magnates had made their wealth by investing in a proposition not half so promising as theirs, and how he could rival the best of them in a short time. The bait was so tempting that he bit, and as might be expected, was bitten to the tune of five hundred dollars. He wants to know if there is any chance of ever getting back his money.

He is only one of thousands who have dropped their all in just such schemes, and never will they again see a penny of it. Thousands have invested the savings of years—the dollars they have earned by toil and privation—in rubber, oil, silver and gold mining companies that promised great dividends in a few months or years, and lost every cent. I know one who was too miserly to buy even the common-



est comforts of life who thus lost the savings of almost a lifetime. The loss, when he fully realized it, almost deprived him of reason. But he suddenly rallied and set to work with a vim to win it back. He told his wife that she was too valuable for him to lose, and with the first proceeds of his toil he bought her the household tools and conveniences he had denied her so long, and telling her to save herself in every way possible, just to cheer and comfort him, he would win back all he had lost if he was given time enough. He is in a fair way to do it. And instead of hoarding every penny and hiding it, as he formerly did, he has it so invested as to help him earn more. I feel sorry for the poor fellows who have dropped their savings in these schemes. And I feel sorry for the thousands who are daily dropping their earnings into the horse-racing swindle, in gambling on the price of grain, and in all the many other fraudulent schemes promoted by swindlers who promise much for little. Thousands of farmers have been caught in their nets and literally robbed of their savings. Not one in a thousand who seeks to get rich by speculative short cuts ever does so. It is simply gaming with sharpers, who have all the advantage on their side. The thing to do is to keep clear of them and stick to your own knitting.

PARCELS POST

Aside from a sensible, businesslike revision of the tariff and rearrangement of some of the schedules, there is no legislation of as great importance to farmers as the enactment of a liberal parcels post. It would be an even greater convenience than rural free delivery, because it would

affect more people, but for the farmers both would simply "put them in town." The opposition to parcels post by country storekeepers comes from a fear that it would enable the consumer—their customer—to trade direct with the wholesaler, and thereby injure their trade. In England and Germany the opposition came from the same class, but the actual result has been exactly opposite. There the postage on parcels, with house-to-house collection and delivery, is only one sixteenth what it is in the United States, and rural stores are more numerous and prosperous than before parcels post was instituted, and the merchants consider it one of their greatest conveniences. All the real opposition to parcels post in this country comes from the express companies. They are the power that works the trade papers to scare the country merchant. They have the whole people by the neck, and are compelling them to pay tribute to them for the privilege of sending small packages about the country. And their rates are simply extortionate. Only a short time ago the Adams Express Company found that their dividends were so large that it would be necessary to reduce them to avoid investigation. Instead of reducing their rates for carrying parcels they watered their stock sufficiently to secure the necessary reduction. They can do these things because the people allow it. When the consuming public becomes sufficiently enlightened to elect to Congress men who will work and vote for their interests, instead of those of corporations, this variety of octopus will serve the people for a fair compensation or perish. At present I can send a four-pound package from my post office to any part of England for fifteen cents less than to the next post office, three miles distant. Write to your congressman about this and start him to thinking.

FRED GRUNDY.

A GOOD FARM GATE

A good farm gate is a great convenience on any farm, and the cost of a good gate is but slight where one has the lumber on the farm and a suitable workshop in which to work on bad winter days. Here is a cut of a gate like we use, and but little explanation is needed to enable one to understand this gate. It is all made of one-inch boards, and the three top bars are best made three and one fourth inches wide, and the three lower ones four inches wide. The end pieces at the latch end are three inches

wide, and the center uprights are four inches wide, while those at the hinge end are ten or twelve inches wide, to admit of fastening the hinges properly. The roof board should be four inches wide, beveled on the top side, as shown in the cut, and if properly fitted on the top of the gate will afford a great deal of protection to the gate. The sizes of pieces given are heavy enough for ordinary uses, and should be spaced so as to make a gate four and one half feet high. The braces should be four inches wide, and should reach about two thirds the length of the gate.

The latch is the handiest we have found, as all that is necessary to close the gate is to swing it shut. The latch lever should be adjusted by a nail or screw driven just under the latch into the upright, so that the latch will strike on the sloping surface of the post catch when the gate goes shut. All joints in the gate are bolted together with three-sixteenth-by-three-and-one-half bolts, with washers on.

For best results the material should be given two good coats of paint and well dried before bolting it together. We have two of these gates, made of yellow poplar, that have been in use some twenty-five years, and about the only expense in keeping them up has been an occasional coat of paint. One of these is made of one by six material, and is heavier than is needed, and the new ones made this year are of material of the size given above. The painting can be done much quicker before they are bolted together, and better, too. These gates are ten feet in length, which gives ample room for driving through, unless it should be a large load of hay or fodder.

S. W. BURLINGAME.

AGRICULTURAL YELLOW JOURNALISM

WHEN I think of all the joys and blessings of rural life, and of all the rewards that come to the soil worker, I can hardly wonder at an exuberance of enthusiasm which frequently carries us beyond the limit of moderation and safety in our statements and in our descriptions of all the good things we have found in rural activities, and which leads us to tell stories that appear to have a "fishy" flavor. The desire is natural to let others know and partake of the privileges and advantages which are ours. But with the best of intentions we can easily go too far. We may do that when telling of the wonderful possibilities of a little piece of land well tilled. I myself have given instances, in public print, of returns obtained from small plots of garden land, or portions of rows, equal to an acre rate of two thousand to six thousand dollars, in such things as onions, celery, vegetable plants, cut flowers, etc.; but I have hardly ever failed to add the warning against entertaining expectations of realizing such returns, or coming anywhere near them, in business, gardening or farming.

Now comes Mr. Bolton Hall with his new book, "Three Acres and Liberty," and tells in a most fascinating way how any city dweller who finds himself tied by galling fetters to a desk or bench in the city can gain his freedom from the humdrum life and slavery of the city and make not only a respectable and enjoyable living, but even grow rich, by turning his back upon the city and beginning life anew in the glorious country, with all its great possibilities, where some have gained independence even on a single acre, or even upon the fraction of an acre. It is easy enough to give a long list of instances where people have succeeded in coaxing wealth out of small tracts of land. It is easy to tell stories that appear to have a strong "fishy" flavor and stay strictly within the limits of truth. But they do not tell the whole truth. And this truth is that such instances are few and far between, simply drops in a bucket.

NO EXODUS

The exodus of the children of Israel from Egypt, and their march into the Promised Land, even under the guiding hand of Jehovah himself, was accomplished under great and discouraging privations, and all sorts of hardships, difficulties and bloody fights. I do not know whether Mr. Hall intended his charming book to be the means of starting an exodus of those city slaves to the country. But such an exodus would bring as great hardships as did that of the children of Israel, and be sure to strew the line of march with wrecks and with blasted hopes.

FARM AND FIRESIDE goes into the homes of thousands of dwellers in cities and villages. My ambition has been to teach them how to find success, and joy, and health, and recreation, besides more substantial reward, in a little home garden of their own. Our enthusiastic recitals of the advantages of the country over the city, of instances of large returns from a little piece of ground, have often proved alluring and tempting to discontented clerks and factory workers and other city dwellers, and many times such people have come to me for advice on the matter of giving up their positions in the city and making a trial of gardening, fruit growing or general farming as a means of making a living. What chances of success has the man who enters a new field without any knowledge whatsoever of any of the details of the business, especially against the competition of people who have had a lifelong experience in that particular field? Even the Israelites sent out their scouts to gain full information of the situation before they ventured to enter the Promised Land. Not too fast, my friends. Wait a while before starting that exodus!

WHO MAY SUCCEED

One of the instances of great success cited by Mr. Hall is the case of George

Gibbs on Orcas Island, Washington, who has made a specialty of tulip and other bulbs. His earlier failures did not discourage him, and now his gardens are making him rich. Usually the man who succeeds is not a mere imitator, or one who jumps headlong into a thing when he sees somebody else make a success of it. The man who can discover an opening, a particular demand in his markets, a chance that others do not see, and who has the knack and aptitude to fill that demand and to persist against early failures, is the one who may count on making a success. Sometimes a blind hen may find a kernel of wheat. One person with a very moderate amount of skill may happen to find just the right kind of soil and other conditions which make plain sailing for him and assure him of great achievements without particular efforts on his part. Another who has had the advantage of long training and thorough knowledge of all the details of soil work, being placed in less favorable conditions, may have no results to show worth bragging over. In the production of crops of all kinds there are, so far as soil conditions are concerned, yet many unknown factors. In many cases it is chance against skill and knowledge, and chance wins.

Mr. Hall tells of "Onion Johnson," of Oregon, who has for twenty years made about three thousand dollars a year by raising onions, and secures yields of one thousand bushels an acre. It takes the right kind of soil and of climatic conditions to do it. I could not do that here on the same scale unless I had my choice of location. I can, and do, do it within the limits of the amount of land which I find available and suitable for the crop.

Here in my own locality I can see promising openings in this field for many a young man willing to learn and make some well-directed efforts, and gain liberty and a livelihood on three acres of land, or even on less. Growing asparagus, rhubarb, onions, berries, vegetable plants, flowering plants, Bartlett pears—some of these or all will do it. By properly managing this, a person might reasonably expect to "reap a reward of from three hundred to three thousand dollars a year, as much as a clerkship yields," even from one acre (say vegetable plants or flowers), or secure from three to five acres "an income that many

INTENSIVE FARMING

"Intensive cultivation," says Mr. Hall, "the growing of as much as possible on a small piece of ground by scientific methods, is the key to the new kind of farming." The up-to-date truck gardener is held out as an example of what any one can do. But Mr. Hall is entirely wrong when he claims that modern methods in agriculture have nearly all had their origin in the hands of truck farmers and market gardeners, and that no class of rural population is more alert in utilizing the newest researches and discoveries in all lines of agricultural science, and that none keeps in closer touch with the agricultural colleges and experiment stations.

The fact is that the lead has been taken by the fruit grower, especially through such wonderful organizations as the American Pomological Society, the Western New York Horticultural Society and through the various other horticultural societies of different states, and more recently also by the New York State Fruit Growers' Association. Market gardeners have been singularly slow in forming such active and effective organizations, in calling the agricultural colleges and stations to their aid or in supporting special trade papers. Without organization, without the urgent demands made by them upon colleges and stations for the consideration of their particular needs, and without an organ of their own to represent their interests, the market gardeners have been painfully dragged along in this onward march, hanging on the coat tails of their more progressive brethren, the fruit growers.

POTATO YIELDS

I feel bound to comment on the statement that "it is by careful cultivation, using fertilizers, and by spraying for insects, that the progressive gardener is able to raise 1,280 bushels of potatoes on one acre, worth in the city markets a dollar a bushel, while the old-fashioned farmer up in the country raises but one hundred and fifty bushels to the acre and sells them at fifty cents a bushel."

I believe there is one instance on record of a yield of potatoes at the rate of over twelve hundred bushels an acre on a small plot having been grown, and I have heard of eight hundred bushels or over having been secured in Oregon or in Washington on an acre. I confess, how-

This may not represent the possibilities of an acre. But it represents actual conditions, not expectations or possibilities. I am usually quite satisfied with the outcome, too, and think the crop is quite profitable. The average farmer goes below the one-hundred-and-fifty-bushel yield much oftener than he goes above it. Early potatoes, however, are about one of the first crops that I would name for planting on a spare acre or two in the city or village suburbs, when the owner, a clerk or preacher or other city worker, does not know what to do with it.

T. GREINER.

GREEN MANURING

VALUE IN IMPROVING THE SOIL

The value of green manuring as a means of improving the soil has been recognized from early times, but it is only in recent years that scientific investigations have been made into the conditions connected with it.

The advantages of green manuring are due to the fact that the leguminous plants used for green manuring supply the soil with nitrogen in an easily available form for the use of the following crop. Like the straw in farm-yard manure, they enrich the soil in humus, and on porous soils and in dry weather this decaying humus is valuable as a means of retaining moisture. The deep-rooted plants which are frequently employed draw up a supply of mineral food from the subsoil, and thus enrich the surface soil, while they help to open up the subsoil for the succeeding crop. The essential factor of the system is the substitution of leguminous plants possessing the power of gathering nitrogen from the air for farm-yard manure. The plants to be selected for green manuring should therefore be leguminous—namely, peas, beans, vetches, lupins, clovers, etc.—if it is intended to employ green manuring as a cheap substitute for farm-yard manure. Non-leguminous plants, such as rape, mustard, hemp, etc., are not now recommended.

Other plant food—namely, potash, phosphates and lime—must be present in sufficient quantities in the soil to produce luxuriant growth. If amply manured with kainite and basic slag, and also with lime if necessary, the absence of nitrogenous manures causes leguminous plants to become "nitrogen hungry" and to take up the free nitrogen of the air in the largest possible quantities. But it is not only the nitrogen obtained from the air which makes this method of manuring a cheap one: it has the further advantage that it is produced where it is to be employed, thus saving the labor of carting, especially where fields are far from the manuring heap. It is also valuable where manure is scarce.

In Germany lupins, vetches and peas are most commonly employed on light lands; peas and vetches also on medium or heavy land, as well as yellow and alsike clovers and horse beans. These may be sown on stubble as an intermediate crop, or with grain, or on land which would otherwise be left fallow. In the first case, when wheat, for example, is followed by barley or turnips, the wheat stubble may be sown with some quick-growing leguminous crop, which may be plowed in during the late fall. In the same way, where from any cause it is found necessary to allow the land to remain fallow, green manuring may be adopted.

Schultz has taken the view that the plants should be plowed in deep enough to completely bury them, but many practical agriculturists maintain that experience has shown shallow covering, both of green and farm-yard manure, to be more satisfactory. The explanation offered is that the more easily the oxygen of the air reaches the buried manure, the quicker and more completely does it become available as plant food. The bacteria, which play such an important part in the process of nitrification, require oxygen, so that a too deep burying, or burying in wet, undrained land, or the formation of a surface crust, hinders the formation of nitrates. W. R. GILBERT.



ROLLING BEFORE HARROWING

a salaried man in the city would envy." But Mr. Hall goes too far when he holds out any such prospects in a general way or beyond very narrow limitations. In short, I believe that there are some, comparatively few, however, who may grope their way carefully and gradually out of the Egypt of city life, of dependence and discontent, into the Promised Land of comfort, and liberty, even affluence, of health and the glorious feeling of independence that comes with such a life. But we should be a little slow in attempting to create or add to the discontent of many city workers, and to induce by means of agricultural yellow journalism any appreciable numbers of them to give up good and permanent situations for the rather uncertain outcome of venturesome dabbling in either soil or poultry products.

ever, that I would very much like to see such a crop at digging time. It would be a sight worth going many miles to see. We can often get one dollar a bushel for our potatoes, especially very early ones. But let us not imagine that careful cultivation, the use of fertilizers, no matter how liberal, and spraying, no matter how thorough, will enable the best of us to grow twelve hundred, or even eight hundred, bushels on an acre. With all the skill we can bring to bear on the undertaking we are not assured of even four hundred bushels to the acre, and on our rich garden soils and by selecting the very best-yielding early sorts we are glad enough to get three hundred bushels. In many years we get less, and now and then we may be able to raise, on a small or moderate scale, five hundred bushels an acre.

HOME MARKET FOR FRUITS

THE home market for fruit is far the best of any. This I have come to believe from my own experience and from observations. The big markets are usually well supplied, for they get the bulk of the shipments from all over the country, and this often overloads them, and the price the grower receives is far from satisfactory. The best plan upon which to work is to grow only the best of fruits, let them ripen as nearly completely as possible, and sell as close to home as possible.

It may not be best to deal directly with the consumers. That will depend on the time of disposal, the distance from the fruit farm and the peculiar adaptability to the business. Only a person with a genial manner and the knack of getting a good price for what is on hand to sell will succeed as he should at peddling. A very good grower may be a very poor seller. It may be the better way to sell through a local retailer—a merchant who has a good run of customers. If so, stick to him if he is square in his dealings. One who is very busy on the farm may not be able to leave the work often enough and long enough to do the retailing.

One great advantage in supplying the near markets is the ability to let the fruit get really ripe and be good when it is eaten. This can rarely be so with very perishable fruits, such as berries in a distant market. Unripe fruit is not fit to eat, and is disagreeable to every one who handles it, from the grower to the consumer. There is nothing satisfactory about it. But ripe fruit, if not too ripe, clean and free from insects and rot, is a delight from start to finish.

Another good point about the near markets is the slight cost of transportation. It often happens that the cost of long-distance shipments equals the receipts, and sometimes there is a deficit. And another point is that we are usually able to know how things get to market when it is near, and any trouble can be known by both parties and adjusted. The grower can know how to meet the requirements better than when all is done by correspondence, and often with unknown parties.—Green's Fruit Grower.

NOVELTIES ON THE FARM

Nothing will amuse the young people on the farm better than the growing of a few of the less common products, and few innovations will prove more instructive. Let the children devote a good-sized piece of land to experimenting. Among vegetables there is a number of interesting oddities which are also useful additions to the farm bill of fare. The kohlrabi is a vegetable nondescript which can be grown as easily as cabbages, which it resembles in flavor. The vegetable oyster resembles a small parsnip, and is much liked by some. The egg plant is grown like the tomato, and when well prepared it constitutes a very desirable dish, either fried or baked. Jerusalem artichokes are welcome in the early spring, and are easily grown, the chief difficulty being to kill them out when once established. The Globe artichoke is also easy to grow, and is a real luxury. Swiss chard is a variety of beet used only for greens. The leaf stalks when cooked like asparagus are second only to that vegetable. Spinach greens are not commonly to be had on the farms, but they are excellent and easy to raise. Cauliflowers are scarce upon the average farm, but the children can raise them if they will take pains. Even among the common kinds of vegetables there are special varieties which are true novelties. The young farmers will enjoy trying some of these also.

Among fruits there are many desirable oddities and novelties. Every farmer should have a couple of Downing mulberry trees. The fruit ripens gradually, and is really very good, although slightly too sweetish. Every farmer can raise enough apricots for home use without much trouble. Dwarf cherries are a hardy novelty well worth trying. June berries, Logan berries and dewberries are desirable novelties, and are profitable in a few sections. Any of these oddities on the farm will attract attention, and can hardly fail to amuse the young people, and the old folks, too.—The American Cultivator.

WATER FOR DAIRY CATTLE

It is absolutely essential, for the highest milk production, for an animal to have good, clean water and plenty of it. About eighty-seven per cent of the milk is water, and if the cow's supply of water is limited, the milk yield is proportionately reduced. It pays to furnish pure, palatable water in summer as well as in winter. Cows should not be allowed to stand in ponds of water which becomes so filthy that the cow frequently will not drink enough to maintain a full milk flow. Such water is liable to taint the

Review of the Farm Press

milk, and some of the filth which collects on the cow's body while standing in the water is apt to fall in the pail during milking. Milk contaminated in this way will frequently taint the entire output of the herd or of the creamery.

In winter it pays well to secure a cheap heater, and warm the water for the cows, for frequently cows that are compelled to drink ice water from a tank or creek dread the chill and often do not drink as much as they need. In stormy days, if cows are exposed while drinking, the milk yield will be reduced sometimes as much as twenty-five per cent, and when the weather is bad it will pay either to have the water trough under a shed or else carry water to the cows and let them stay in the stable.

There are devices on the market which keep a constant water supply before the cows in the stable, and tests made with this device show that when used the milk yield is increased from that given by any other method of watering. However, these troughs frequently become unsanitary and foul, and for this reason they have been abandoned, and now the most popular method is to have the cows drink from a cement manger, which can be readily cleaned.—Prof. Oscar Erf in The Kansas Farmer.

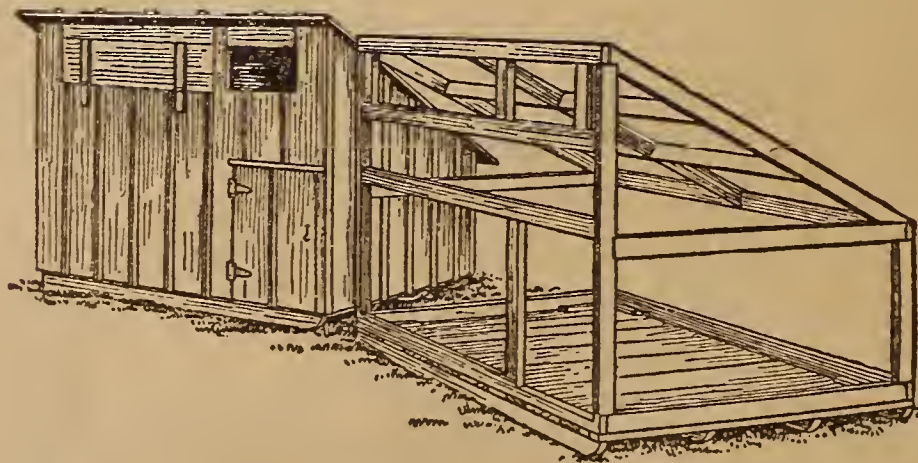
WARM MILK FOR THE CALF

Don't ever feed the little calf cold milk. If you ever made cheese you would know better. A calf's stomach is like a cheese vat of milk after the rennet is added.

The rennet taken from a calf's stomach coagulates the milk in the cheese vat the same as it coagulates the milk in the calf's stomach. Every cheese maker knows that rennet will not act upon cold milk in his cheese vat, neither will it act upon the cold milk in the calf's stomach until the calf has warmed that milk to a proper temperature. Cold milk causes the calf to shiver, deranges its digestive machinery and renders it unable to make a thorough assimilation of the food and seriously impairs its future usefulness as a feeder. A calf fed with cold milk usually turns out a pot-bellied, bristly-coated runt, when if the milk could have been warmed before feeding it might have turned out a fat, sleek-coated fellow, a satisfaction and a profit to its owner. Many a twenty or thirty dollars received from the butcher could be traced back to a little warm milk, a dry bed and warm quarters in calfhood.—Herman Wood in Colman's Rural World.

PORTABLE HOG HOUSES

Portable hog houses are rapidly becoming more popular throughout the country, and they are valuable both as shelter and from the standpoint of sani-



PORTABLE HOG HOUSE

tation. Farmers are realizing more and more the necessity of keeping things clean around the hog lots if disease is to be prevented, and the following description of a portable house, given by J. G. Fuller, of the Wisconsin station, will probably fill the needs of the average farmer. The accompanying illustration shows how simple in construction the houses are, and as the material for each costs but \$12.50, nearly any one can afford one or more of them.

The floor is built first, with two by fours as stringers, and the frame is held on the floor by blocks at each corner. The house shown in the illustration is six feet wide, eight feet long, six feet two inches high in front and three feet high in the rear. The lumber required for the construction of such a house is as follows: Twelve pieces, two inches by four inches, sixteen feet long, for frame; four pieces, one inch by twelve inches, sixteen feet long (rough), for floor;

thirteen pieces, one inch by twelve inches, sixteen feet long, for roof and ends; ten O. G. battens, sixteen feet long, for sealing cracks between boards. For neatness, economy, durability and comfort to the animals this type of cot is excellent. It will accommodate from three to five mature animals.—Journal of Agriculture.

DODDER IN ALFALFA

The most satisfactory method of eradicating dodder is to use only seed which is absolutely free from dodder. Do not accept the statement of your merchant, for generally he is not familiar with dodder seed, but before sowing even a single pound of alfalfa seed send a small sample (about two ounces) to your agricultural experiment station and have it examined for dodder and seeds of other noxious weeds. This examination will cost you nothing and may save you many dollars and much worry.

Even though the above precautions have been taken, frequent visits should be made to the alfalfa field in search of any patches of dodder which may appear. Such patches should be destroyed at once by cutting as close to the ground as possible, raking the mass together and burning it. Care should be taken to cut all of the alfalfa on which any dodder vines are growing, for if any part is left it will continue its growth. The addition of some straw to assist in the burning will be found of advantage, and frequently necessary. It is not advisable to attempt to carry the tangled mass from the field to be burned elsewhere, for if any of the infested plants or pieces of the dodder vines are lost while crossing the field they will form a nucleus for new patches should they chance to come in contact with fresh alfalfa plants. Burn it on the spot is the safe rule.

Where entire fields are badly infested, frequent close cutting before the dodder seeds approach maturity will often prove beneficial; but ordinarily the best treatment in such cases is to cut and destroy all of the plants, plow the ground thoroughly, and for two or three years grow crops which will require frequent stirring of the soil, so that any seed which may be buried will be exposed to conditions favorable for germination; otherwise the seed will remain dormant in the ground for at least three or four years.

The writer of an article which appeared in a recent issue of "The National Stockman and Farmer" touched one of the keynotes of profitable farming, and likewise expressed the opinion of a large number of successful alfalfa growers, when he said: "From what I have used of alfalfa, no farmer can afford to do without it." To this I wish to add that no farmer who contemplates the growing

Moving parts on new machinery frequently run hard on account of paint in the bearings. This paint can be easily removed by the use of kerosene, or one half kerosene and one half machine oil mixed. New machinery should be carefully examined every day, as bolts often work loose, or boxes may fit too tightly, causing them to heat. When the work with a certain machine has been finished, it should be thoroughly cleaned, and all parts that are likely to rust should be carefully wiped with an oiled rag or waste. They should then be stored in a shed of some kind, rather than left in the corner of a field or under a tree.

We will assume that a farmer starts in farming with \$1,000 invested in new machinery, and that if it is sheltered and well cared for it will last ten years, and if not sheltered, only five years. If the implements stand out in the weather, it will cost another \$1,000 to replace them at the end of five years. The compound interest on this amount for five years at five per cent amounts to \$276.28, or the total amount of money paid out for machinery with its interest amounts to \$1,276.28.

A good tool shed large enough for this machinery can be built for \$200. The compound interest on this amount for ten years at five per cent equals \$125, or the shed may be considered to have cost \$325.60 at the end of ten years. After paying for the shed, it leaves us, at the end of the ten years, a balance of \$950.68 in favor of housing the machinery, and the shed is perhaps good for ten years more use.—H. M. Bainer, Professor of Farm Mechanics, Colorado Agricultural College.

GENERAL OR SPECIAL FARMING, WHICH?

In giving my views on this subject I would take the stand in favor of general farming, as it is the most likely to bring success to the average farmer. Many a man without much education or ability has made a fair degree of success by growing everything that was possible, to a limited extent, on his farm—or, in other words, has grown all the crops necessary for home consumption, instead of having to buy. The man who raises enough wheat to supply his family with flour, corn to feed his stock, hogs for meat, and chickens for home use, etc., will be more certain of a living and success than the man who depends on a special crop to buy the necessities and luxuries of living. The general farmer can nearly always have something to sell after he has supplied his own wants, while the special farmer may have a failure of his special crop, and thus he has to raise money some way to live on until he can raise his special crop. He may get more money in a lump, but the chances are uncertain.

Then the fertility of the soil can be kept in better condition by general farming than by special farming. The growing of different kinds of crops does not exhaust the plant food of a soil like special farming. The exhausted cotton fields of the South and the worn-out tobacco fields of Virginia show the bad effects of the one-crop system, or special farming. I know that the theory has been advanced and has been worked out in practise by some men that the special farmer can give more attention to one special crop, can give it better attention than trying to look after too many. But, on the other hand, a great many men have failed entirely in special farming either from a lack of ability or a bad season for their special crop, when if they had not depended upon a special crop to meet all their obligations or necessities of living they probably would have had some degree of success.—Geo. F. Mitchell in The Farmer's Guide.

NORWEGIAN HORSES DRINK WATER WITH THEIR MEALS

Should horses drink when they eat? The average keeper and veterinarian says no, just as the average writer on hygiene says that human beings should not. Yet they invariably do, and they certainly enjoy their food more when they can "wash it down." Now this is the Norwegian practise with horses, and according to one veterinarian, "you never see a broken-winded horse in Norway." He attributes this to the water furnished with their meals; and while that may be somewhat extravagant, the custom is worth considering. Every one who has taken care of a horse has noticed that water before meals is not relished, while if it is given in large quantities directly afterward it tends to wash the grain too rapidly through the digestive tract. In Norway every horse has a bucket of water beside his manger, and as he eats he also drinks. It is interesting to see how the Norwegian horses relish their water with their meals. Now they sip a little from the bucket, now they eat a mouthful, then another sip, then another mouthful, just like rational human beings.—The Country Gentleman.

THE CARE OF FARM MACHINERY

There is perhaps no other source of loss so great to the average farmer—as that produced by lack of the proper care of farm machinery. As a general rule the prosperity of a farmer may be estimated by the way he cares for his machinery. Poor care indicates shiftlessness, waste, lack of energy, and that the owner must necessarily buy more tools and implements in a short time. Good care, on the other hand, indicates prosperity, development, bank deposits and the buying of less machinery.

LENDING A SAW

The chronic tool borrower is a man not easily discouraged, and he is very apt to help himself to what he wants in case the owner is not at hand. A strong box with a strong lock should be provided to hold the tools when not in use.

It is a good plan to test a new borrower by lending to him from a set of what I call lending tools. These can be bought at a pawnbroker's or second-hand store for a small sum and cleaned up a little to make a fair appearance. If the borrower is one of the chronic kind, you may get a few of the tools back if he has not sold them or loaned them to his relatives further out in the country. Those that you do save will be pretty nearly spoiled, but the loss will be small. On the other hand, the borrower may be a good neighbor, who really needs the accommodation. If he returns the tools properly sharpened and cleaned up, it may be safe to lend him a few of your good ones next time.

I once owned a cross-cut saw in particular that I prized above rubies as a lending tool. It was over forty years old, about three fourths of an inch thick, and of a metal unknown to science. The man was never born that could make it cut. No file could hurt it, either. I lent it to one notorious borrower in a Michigan town soon after I got there. He came back early next morning with it, panting.

"Say, mister, this saw won't cut at all," he told me.

"Not cut?" I answered in a surprised tone. "Oh, you want to give her a touch up with the file, I expect."

He departed, but was soon back, and leaned the old warrior up against the slabs without a word. I could see a few heel dents on the blade, where he had jumped on her in his excitement. Then he said insinuatingly:

"Got any other saw y' c'n len' me?"

"No," I told him, diplomatically. "My other tools are coming by the next boat."

His face fell at this, the next boat being anything up to two months. To cheer him, I showed him the rest of my lending tools, and offered him any of them. He shook his head sadly and went home again. Then he spread a report around the town that I was a bad man, and would be a disgrace to the district. Some people have a funny idea of gratitude.—R. Kalesky in *The American Cultivator*.

THE VALUE OF A PEDIGREE

The value of a good pedigree is the evidence which it brings that the animal is descended from a line of ancestors, all of which were alike and excellent of their kind, and can be depended upon to do the certain things for which they were created. Not that an animal with a high-sounding name and a pedigree full of long names is sure to be of great value as a breeder, for in all races and breeds there will be some which are less perfect and symmetrical of their kind than others, and if such be bred from, they may likely enough transmit undesirable points, and if mated with animals possessing similar failings, they are almost sure to retrograde to a certain extent.

Pedigree is valuable to the extent it shows an animal to be descended, not only from such as are purely of its own breed, but also from such individuals in that breed as were noted for the excellencies for which that particular breed is esteemed.

Among many farmers and dairymen who are ignorant of what goes to constitute merit in a breeding animal there is an inclination to treat as imaginary the higher values placed upon well-bred animals over those of mixed origin, unless they are larger and handsomer in proportion to the price demanded. The money paid for qualities that are not at once apparent to the eye is stigmatized as fancy prices.

It is not denied that fancy prices are many times paid for breeding animals, for there are many who are willing to pay for what pleases them, aside from the merit commensurate to the price. But, on the other hand, it is fully as true that the great intrinsic value for breeding purposes may exist in an animal and yet make a very little show. Such an animal may not look as well to an observer as a grade or a cross breed and still be worth ten times as much as a breeder, for it possesses the certain well-fixed qualities that have become intensified by years of systematic breeding, and can be depended upon to be transmitted to its descendants.—W. M. Kelly in *Northwestern Agriculturist*.

SELLING FERTILITY

Every time a farmer sells a ton of wheat he sells \$11.62 in fertility; in a ton of clover hay he sells \$8.62 in fertility; in a ton of alfalfa hay he sells \$8.63 in fertility; in a ton of oats he sells \$7.81 in fertility, and in a ton of corn he sells \$6.47 in fertility. If these products be fed on the farm under proper conditions, and the resulting manure be returned to the

soil, there is a very slight loss of fertility, for the following products may be sold instead:

In selling a ton of finished beef on the hoof the farmer sells but \$5.37 in fertility; in a ton of live hogs he sells but \$3.70 in fertility; in a ton of milk he sells but \$1.48 in fertility; in a ton of cheese he sells but sixty-nine cents in fertility, and in a ton of butter he sells twenty-seven cents in fertility. The best policy for the farmer to adopt is that system of corn and crop rotation which will embrace not only the growing of grain, but the breeding and feeding of stock, either for sale in the form of beef or pork, or for the production, whether for milk, cheese or butter.—Professor Holden in *Farmers' Home Journal*.

STRETCHING WIRE

I have found the following method of stretching wire over rough ground to be good. Get some big nails and drive them into posts as illustrated in the accompanying drawing, on top of knolls slanting the nails downward. Hang wire over



them. In the low places drive them into the posts upward, and hook wire under them. Then stretch as tight as you want to. One man can stretch nearly as much wire as two can without them.—A. J. Sulem in *The Practical Farmer*.

CLIPPING ALFALFA THE FIRST SEASON

This is a practise much advised by certain writers, but we have been unable to agree with them. They say: "Run the mower over the young alfalfa, when sown alone, in order to check the growth of the weeds." But they do not seem to realize that the process checks the growth of young alfalfa plants just as much as it does the weeds. Alfalfa will stand frequent mowing when once the root is established. But the crown is not established with the young plant until it is from four to six months of age. To clip it before is to run the risk of checking its growth, to its great injury. This is one of the dangers that arise in sowing it with a nurse crop, unless the grain has been sown very thin and the cutter bar of the reaper is carried as high as possible.

If the young plants are set back in their growth the first summer they are liable to not make sufficient headway to stand the severe winter that follows. "But shall we let the weeds go to seed?" asks the farmer. Well, there is this much to say about that: The three cuttings you will give your alfalfa the next season will kill a large portion of the weeds, and if your alfalfa lasts for three or more seasons it will prove the greatest weed killer you can find.

So we have found that where alfalfa is sown alone it is best to let it take its course unclipped the first season. Here is where the advantage comes in of using not less than twenty-five pounds of seed. Sow it thick enough so it will hold the ground in spite of weeds. Then, again, poor seed lets in the weeds. Every bit of seed should be tested to know that it is full of vitality. But let the alfalfa alone the first season, especially in Northern climates.—Hoard's *Dairyman*.

CLOVER SICKNESS

I do not believe there is any one cause for the disease known as "clover sickness." Time was when if a cow was out of order for any reason whatever, she had hollow horn, and the remedy was to split the end of her tail. If the soil gets out of condition for any reason whatever, so that clover does not grow, then we call it clover sickness. The most common cause of clover sickness is probably deficiency of lime in the soil. On many farms where clover has been a shy grower, I have found that by a liberal use of hard-wood ashes the difficulty has been overcome and the clover sickness removed. Frequently, by continued cropping the soil becomes deficient in humus and in available plant food, and clover will not thrive under these conditions. Clover is not a crop for run-down soils, but it is a crop that thrives only when well fed and well cared for. Inoculation of the soil may sometimes be necessary in a country where clover has not been

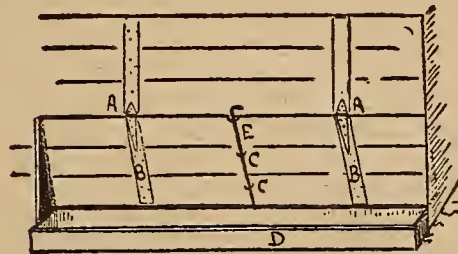
grown. It is doubtful if there is a farm in New England where inoculation would be necessary in order to secure a growth of clover. As a practical means, then, of overcoming clover sickness I would recommend an improving of soil conditions, the use of ashes and farm manures, possibly of lime if the soil is strongly acid, underdrainage if the soil is wet, and it is my opinion that there are but few soils which will not respond if given this treatment.—L. A. Clinton in *Rural New-Yorker*.

THE COST OF SIDE BONES

As showing how side bones lessen the value of the heavy draft horse we might mention that last year a man in this state who buys and feeds out a couple of carloads or more every year sold a carload on the South Omaha market last spring, among which were six of the best, uniform as to weight and type, with five sound and the sixth having side bones. The five sound horses brought \$305 apiece, while the unsound one brought \$190, making a difference of \$115 on account of the side bones. If good horses were not so scarce there would have been a greater difference than this. Most farmers who raise horses will be satisfied with a profit on each of the difference in price above. The unsound horse costs just as much to raise and market as the sound, yet to the man who raised him probably did not return much profit. For a gelding the book is closed with his sale, but how is it with the unsound mare? With sire and dam both unsound there is little question as to what the progeny will be; with one sound the odds are still against the colt, as more of the progeny will be unsound than sound. While only forty-five per cent of the sires are unsound, about sixty-five per cent of the mares of draft weight are unsound. As we cannot always sell our unsound mares and buy sound ones, is it asking too much of a sire that he be sound if he is expected to throw colts after his kind?—Dr. J. H. Gain in *Nebraska Farmer*.

HANDY HOG TROUGH

Cut out the front of the pen the length of your trough. Nail the boards you cut out together for a door, except the bottom one, which you will not need. Shove the trough half way out of the pen. Hang the door you have made to the top board, which should not be cut out, over the center of the trough. Get two guards or staples like those used on a wagon box (to hold sideboards), and put an iron rod



through the staples. Swing the door out to the edge of the trough, bore a hole in the edge of the trough to let the rod drop in; swing the door in, and bore a hole on the inside edge of the trough, to let the rod drop in. Now your trough is outside of pen. Turn feed in the trough and pull up rod, swing to outside of the trough, drop rod in the hole, and your trough is inside of pen. I have used this arrangement for twenty years and have never found anything to beat it yet. The rod should be bent over at the top for a handle, as shown in the illustration. A A, hinges; B B, cleats; C C, straps; E, rod; D, trough.—John Myers in *The Practical Farmer*.

IS SALT A FERTILIZER

Common salt is the chloride of sodium, and we have sodium salts in other materials that are used as fertilizers, as nitrate of soda, etc. There has long been a controversy as to whether sodium can replace potash as plant food. The Rhode Island Experiment Station has been making long-extended experiments for the purpose of studying the effects of sodium salts on vegetation. Sodium salts were found to increase the percentage of phosphorus in the plant, but this was evidently an accompaniment of the employment of the soda and not the cause of the increased growth. Sodium salts undoubtedly liberated potash in the soil, and there was evidence that the potash taken up by the plant was more economically used when an application of sodium salts was made. Sodium salts were beneficial when the potash was in

small amount, but the results do not show that it would be wise to cut down the supplies of potash enough to make sodium salts beneficial, nor to buy common salt or sodium carbonate as fertilizers, though the sodium in the nitrate of soda, that costs really nothing, may be of value. But after all there is no evidence that in the total absence of potash plants can use soda instead. In short, we have no faith in any value of salt as a fertilizer that would make it profitable to buy for that purpose.—W. F. Massey in *The Country Gentleman*.

SIRE MORE THAN HALF THE HERD IN THREE WAYS

Every one is familiar with the saying that the sire is half the herd. This is literally true. That is, of the qualities bequeathed to the calves the male parent furnishes half. The cow influences the character of but one calf a year; the bull passes on his personality to many calves, to all the calves of a herd of ordinary size. When he is chosen, half the character of all the calves is determined. In a herd of forty cows his influence is as much as that of the whole number of cows taken together.

If he is of stronger prepotency than most of the cows—that is, able to transmit his qualities more surely and strongly to the progeny, which is usually the case with a well-bred sire—then the bull represents more than half the herd. In that case more than half the characteristics of the calf, or the stronger and predominating half, come from the sire.

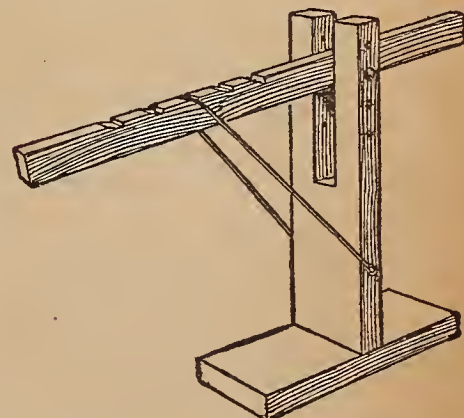
Now if the sire, as an individual and in his pedigree, is superior to the cows—and this will be true where a pure-bred sire is used on a grade herd—the characteristics he transmits to the calf will be of more value (of higher quality or greater quantity) than those that come from the mother, and in this sense also the bull will be more than half the herd.

If the sire is kept with the same cows several years, each year he starts out a generation of calves more than half of whose qualities and strength were transmitted by the sire. This single step is a great improvement. But his successor, of similar type and breeding, mated to those improved heifers, carries the improvement forward another step, fixing the qualities and the power to transmit them more surely and strongly, carrying them to a higher degree and eliminating defects that have come from the mother's side. From generation to generation the succession of well-selected sires goes on increasing and intensifying the improvement of the herd. In this way the sire becomes three fourths, seven eighths, fifteen sixteenths, etc., of the herd. In fact, in a few years the sire is practically "the whole thing."

So the sire may be much more than half the herd, whether judged by the strength, quality or accumulated effect of the characteristics he transmits. It is literally true that the sire may thus, within a few years, at slight expense, completely transform a dairy herd and more than double its profit.—Wilber J. Fraser in *The Farmers' Review*.

A HANDY WAGON JACK

Many lifting jacks which are designed for light vehicles would not work well for a heavy wagon. The illustration shows one which any farmer can make, and is simple, strong and convenient. The upright consists of a two-by-six plank about two and one half feet long. A slit about two inches wide and twelve inches deep is cut in the upper end of this upright. A few holes are bored in this end of the upright, through which a bolt can be passed, so that it may be adjusted for raising axles on wheels of different height. The raising lever should be made of two-by-four about three and one half feet long. Have a rod attached to the upright pass-



ing over the handle end of the lever, so that as it is drawn down it can be hooked in a notch to hold it in position. When well made such a jack is capable of supporting from one thousand to two thousand pounds.—Emil O. Johnson in *The Farmer*.

Gardening

BY T. GREINER

PLANTS NEED ROOM

ONE thing which the novice in gardening is apt to overlook is the fact that every plant for its full development and to do its best needs a certain amount of space. It is useless to plant tomatoes, even of the best varieties, if we do not give them the room they require. When you set a tomato plant of any of the vigorous-growing standard sorts on rich land not more than two or three feet away from its neighbors all around, you will get plenty of vine and leaf and stalk, but you will get very little, if any, fruit.

We can see examples of this any summer day in the home gardens of people in the suburbs of cities and villages, and perhaps even of farmers who ought to know better. Or if you have an apple orchard in this apple region, with trees standing thirty feet apart, you will, when the trees get to be thirty-five years old and should then bear full crops, grow wood, but no apples. Here we give our standard tomatoes not less than four and one half feet space each way, and apple trees not less than forty feet. When you train tomato plants to a pole or stake you may set them three feet apart, trimming to a single stalk, as in that case you furnish space vertically rather than horizontally. You can do that within certain limitations. But you cannot do it with apple trees, and should not try to; nor with most other things.

The factory employee who lives in the suburbs often uses the rear part of his city or town lot as a garden and potato patch, and naturally he tries to make the most of his available space. Quite often, if not usually, this laudable intention leads him into the mistake of crowding his hills to such an extent as to jeopardize all his chances for even a moderate crop. He did not forget, for he never knew, that a potato plant, in order to have any chance for producing a good crop of tubers, needs at least a space of upward of two feet square, or two and three fourths by one and one half feet, and this really is the lowest limit of safety. When you crowd the plants closer than this you run needless risks of failure. Thousands of amateurs do that, and meet with disappointments when harvesting the crops. So while we do desire to utilize every inch of space that our rich garden spots afford, we run less risks of failure and disappointment when we plant rather wide than when crowding the plants unduly close together.

FRUITS FOR THE FAMILY

One of our friends, a lady reader in Arlington, Illinois, wishes to plant trees and small fruits to supply the family with an abundance of fruits during the season. She has room for about two dozen trees, and wants to know what kinds to select, and how to plant them.

The problem in regard to small fruits is very easily solved, as strawberries, raspberries, currants, gooseberries, etc., may be grown profitably between the rows of newly set apple, pear and peach trees, at least for several years. The selection of varieties, however, is in most cases a local question. If I had never tried strawberries in my location, I would go to my neighbors who have, and ask them what sorts have given them the best results.

In my own locality, for instance, I could still grow the old Wilson successfully, and this variety, now almost entirely superseded by newer sorts in other places, is still a reliable market berry here, and as good for home canning as ever. The Brandywine is one of the best berries here, but is unreliable in many other places. So I say, go and ask your neighbors! The same holds true of raspberries, although the old Cuthbert is one of the very best red sorts, and generally very reliable. Among currants I would have to look a good while before finding the superiors of Wilder for red, or Imperial for white.

How to select the varieties for two dozen fruit trees so as to give a succession of fruits right through the season is a question not easily answered, as much depends not only on local conditions, soil, etc., but also on individual tastes. Some people take more to one kind of fruit than to another, or to one variety in preference to others. It may be presumed, however, that our friend will wish to have cherries, plums, quinces, apples, pears and peaches. That does not leave many trees for each, and not many varieties of each kind of fruit. For cherries, I would plant an Early Richmond, a Montmorency Ordinaire, a Yellow Spanish, a Napoleon Bigarreau and a Black Tartarian.

Of peaches I would select three or four kinds of the hardy North China type, such as have been named and described in the issue of March 25th, or any other that I found doing well for neighbors.

As to plums or prunes the local conditions have again to be taken into consideration. The European sorts succeed well in some places, and utterly refuse to grow and fruit well in others. The Japan sorts thrive over a wide range of territory, and I would surely plant a selection including Burbank, Abundance, and perhaps even the apricot-flavored Ogon, which is most excellent for canning, and also the Satsuma, a most delicious, highly colored canning variety.

Where the Bartlett pear does well, no better variety could be planted for canning purposes. There are places, however, where nothing better than the Keiffer could be planted. For winter pears there is a long list of good ones, but a tree or two of the Angouleme, often known as "Dutchess," and an Anjou, both late fall pears, and a Winter Nelis may have to answer.

As to apples I would plant a Red Astrachan, an Oldenburg, a Gravenstein, a Maiden Blush, a Talman Sweeting, perhaps a King and Northern Spy where they succeed, a Wagener and a Pomme Gris or Gray, or other good Russet. Here we think much of the Swaar, and, of course, of the Baldwin and Rhode Island Greening, but I doubt whether they are best for the West. If restricted to less than a dozen apple trees I would graft some of the limbs of part of the trees to other selected varieties, so as to have a larger number of sorts.

HEAD LETTUCES

How we did and do enjoy our crisp head lettuces again this season, beginning quite early in June and lasting during the best part of summer and fall! A near friend of mine writes me that he has tried dozens of varieties, among them even the most highly praised of the newer ones, May King and Holtzschuh's Success, and others, without being able to get those nice solid crisp heads, almost like cabbage heads, that I have been talking about.

I am sure that it is not the fault of the seed or of the varieties. Either one of them will give me on my grounds, without special efforts on my part, those nice, solid, delicious heads, and there is hardly ever a plant that fails to do it. For the earliest crop the seed is sown under glass in early March, and the young plants are "pricked out" in flats, about one and one half inches apart each way, and then set in the open ground in rows about six or eight inches apart in the rows, with rows one foot apart. At the same time I sow seed in open ground, in foot drills, and thin the plants early to a few inches apart. I often have as good and solid heads, although later in the season, in the seed rows as the transplanted plants give us. Difference in soil (mine being a strong loam, while his is light, gravelly soil) may account for the difference in the outcome. But I advise my friend to try transplanting, with plenty of space given to each plant.

May King is a good strain of the old Tennisball, like Perfection Salamander. Holtzschuh's Success is a very large lettuce, in fact one of the thricest growers, at first somewhat loose, when it may be mistaken for a leaf variety. It is not an early sort, but long after the May King, etc., has gone to the table or to seed the Holtzschuh makes a large and solid head of good quality.

INSECTS BREED RAPIDLY.

When I found only scattering specimens of potato beetles this spring I was inclined to conclude that this pest had been nearly exterminated by last winter's cold, and that we might easily and with some degree of safety dispense with the usual practise of applying arsenical poisons this year. This may be true so far as our later plantings of potatoes are concerned. At least I have not yet found a "bug" on any of my later patches. On the other hand, there are already plenty of slugs, and some defoliated plants in the earliest patches where not sprayed with poisons. This shows that potato beetles breed so rapidly that even a very scattering few "hard-shells" left in undisturbed possession of the plants will soon give us again a full supply of "bugs" and cause us a good deal of damage.

We may find this experience repeated with reference to the yellow-striped cucumber beetle. This appeared at first only as a very few solitary specimens. Yet now and then I find a cucumber leaf entirely riddled by this pest, and at this time it seems decidedly unsafe to neglect spraying any of these crops with insecticides and under any circumstances. We have to spray them with fungicides anyway, if we desire to insure them against injury by plant diseases, and we might as well add the poisons to them. The expense is inconsiderable compared with the assurance of freedom from their insect foes.

Fruit Growing

BY SAMUEL B. GREEN

CURRENT BUSHES FAILING

P. P. H., Saint Bonifacius, Minnesota—I do not understand what it could be that causes the leaves of your currant bushes to turn yellow and fall off, but it probably results from the same factor as that which causes the fruit to fall. In your vicinity currants generally do very well, and such trouble as you complain of is exceptional. I would like to know if your neighbors are troubled in the same way, and if they have the same variety that you have. It seems to me there must be some special local cause that makes this injury.

SUMMER PRUNING OF PEACH TREES

C. C. C., Danube, California—I have never had any experience in the summer pruning of peach trees, nor do I think it especially desirable. I cannot understand just what would be gained by such work. The fruit will probably color just as well without the summer pruning as with it, and removing the foliage at this time of year would really result in checking the growth of the trees, which is not desirable.

ROSE-LEAF SLUG

J. B. R., Saint Cloud, Minnesota—I know very well what the insect is that is troubling your roses. It goes by the name of the rose-leaf slug, and in its work it eats off the green surface of the leaf, leaving one surface, which becomes dry and parchment like. Treating it with copperas and black pepper, as you did in a trough under the bush, would have no effect. The best remedy is to apply a pure soap as a strong suds, as you have done, and such treatment will not hurt the rose bushes. I think, however, it would be well to put on the soap and allow it to stay a little while, and then wash it off before it becomes quite dry, as otherwise it will stain the foliage. Tobacco water is also a good remedy for this pest, and it is a good plan to add a small amount of Paris green to it. Kerosene emulsion would probably be satisfactory, but it is more difficult to use than the other remedies mentioned, and it is no better.

BUFFALO PEA

J. J., Elmore, South Dakota—The specimen enclosed is what is known as ground plum or buffalo pea, *Astragalus caryocarpus*. This plant is a very near relative of the so-called loco or crazy weed, which is known botanically as *Astragalus mollissimus*. This latter plant is a source of much injury to cattle on the plains when the supply of food runs low. As a rule cattle do not eat it, and when they eat it in considerable quantities it often causes death, which is preceded by great nervous excitement and loss of will power.

A number of years ago my attention was called to the ground plum as being a plant of possible value as a new vegetable. I found, however, on cooking and eating it, that while it was of fair quality, there seemed to be something of the poisonous element in it, probably the same as found in the crazy weed. On eating a considerable quantity of it I became quite dizzy, and concluded that I did not wish to experiment with it on myself any further.

PLANTS UNDER SHADE

F. W. W., York, Pennsylvania—If your front yard is now grown up with trees, so that roses that formerly grew there are shaded so they do not do well. I doubt very much if there is any other plant which you could put there that would prove satisfactory and give much in the way of bloom. Where there is only a small amount of shade you might use such plants as *Spirea Van Houttei* and red twig dogwood, and supplement them with gladiolus and perhaps the spring-flowering bulbs, but there are no satisfactory flowering plants that are adapted to the shade. The best thing for you to do is probably to use the plants mentioned, or if the shade is too heavy for them, then use ferns or other shade-enduring plants.

APPLE TREES INJURED

J. W. S., West Chazy, New York—The fact that the foliage flowers of your apple trees wilt without any apparent cause, and the injury occurs so early in the season, makes me think that some injury has happened to the roots. This may have come from injury by rodents or by severe freezing. In either case wait until

the tree has had a little time to recover. I fear, however, that the trees are seriously injured.

It seems to me probable, from your description, that it is rose bugs that are injuring your rose bushes. These do not yield to treatment with Paris green or kerosene emulsion, but must be hand picked each day. Pick them and drop them into a cupful of kerosene.

CURRENT WORMS—PLUM POCKETS

O. H. K., Twin Valley, Minnesota—You will probably have trouble with currant worms every season, since, if you are attentive and keep them off your own bushes, the chances are that your neighbors will breed a sufficient supply for you each season.

The only really satisfactory way of taking care of this pest is to expect it and to provide for it by spraying the bushes early in the spring, as soon as the first work is seen. Their early work will generally be confined to small leaves well protected near the base of the bushes, and the first appearance to one who is acquainted with them will be small round holes through the leaves. On careful examination there will be found a lot of little worms about the color of the leaf working from the under side. As soon as this leaf is eaten these worms spread over the bush and soon get to be very voracious. If you will treat the green worms, as soon as the leaves are well expanded, to Paris green in water, the same as you would prepare it for the potato bug, you will destroy these worms before they have done any serious injury.

In regard to the plum pockets, or bladder plums, they are caused by a fungous disease that works into the flower, causing the peculiar distended growth or a similar growth on twigs of young growing branches. This disease is generally confined to the fruit in the case of the plum, and in the peach to the new growth on the twigs, but sometimes it takes both fruit and foliage in the peach and plum. The best treatment for this is spraying the whole of it early in the spring, about two weeks before the leaves come, with a solution of sulphate of copper at the rate of one pound to ten gallons of water. This treatment destroys the spores which winter over about the buds and on the twigs and is satisfactory.

CHERRIES FALLING SOON AFTER SETTING

S. D. P., Lamonta, Oregon—The falling of cherries from the trees soon after setting might be due to a variety of causes. It might result from a lack of proper pollination, from adverse weather conditions, etc. Some varieties also are very much more susceptible to it than others. Cold weather at flowering time might produce this effect.

SCION AND STOCK OF PLUM FAILING TO UNITE

D. M. M., Owatonna, Minnesota—In regard to the plum stems you sent, I am much surprised to see that the stock and scion have failed to unite, for I have had no difficulty in grafting the Surprise on the true American plum. Where American plum is grafted upon apricot, the scions will then make a good growth the first year, and the second year break off at the union. In this case it seems that while there is a sort of adherence of the tissue of the scion and the stock, they did not really grow together.

It seems to me there must be some mistake in connection with these plums about their being grafted on the American plum, and the chances are that it was something else. I wish you would study the matter over and see if the stocks used were not something other than you think at this time.

NORWAY POPLAR

G. A. B. H., Spring Valley, Minnesota—The Norway poplar is a form of the cottonwood that grows very rapidly. It is much like the Carolina poplar, which is also a form of cottonwood. The foliage of both these trees is very healthy and free from disease, much more so, in fact, than our common cottonwood. There is just now an effort on the part of nurserymen to exploit it, and the probabilities are that it will be overplanted. On the other hand, its lumber is fully as good as that of cottonwood, and I am inclined to think better than cottonwood averages, and answers very well for plank for barn floors and for other inside purposes. It is certainly a very desirable tree to plant on our farms.

Cottonwood lumber is now selling for twenty dollars a thousand and upward in some of the Western states. This tree yields a large amount of lumber in a very short time.

COSTLY POULTRY HOUSES

ONE of the problems in the keeping of poultry is the design of the poultry house. There are as many opinions regarding the construction of poultry houses as of other matters, and some persons are disposed to construct houses of elaborate designs without regard to cost. Elaborate poultry houses may appear pleasing to the eye, but a great majority of them are more ornamental than useful, as well as being built more for the convenience of the attendant than for the hens. There are really but two or three plans for building a convenient poultry house at a low cost. The cheapest is one that is square, with a somewhat flat roof, as it will then afford the greatest space possible in proportion to the cost. If the cost is no object, it is better to invest in lath and plaster for the walls than in boards on the inside, as the house can thus be made more comfortable, both in winter and in summer. A great many poultry houses have been constructed for the wealthy which are cheerless and cold, being the most unsuitable structures that could be devised for poultry. The main point is comfort, which includes plenty of scratching room on the floor, warmth in winter and cool air in summer. The object, after all, is to secure eggs, and when building a poultry house this should be kept in view if the hens are intended to afford profit as well as pleasure. No matter what the design may be, too many hens should not be kept in one house, as crowding lowers the vitality of the fowls. More air, more comfort and more eggs will result when the fowls have ample room in their quarters.

BURN THEM OVER

It is not too risky to allow fire to run over a nest, for which reason it may be advised that after the next nest has been taken outside and emptied, the woodwork should be lightly sponged or brushed with kerosene and a lighted match applied. Whenever the nests are cleaned the materials should be consumed by fire. The nest is the harboring place of vermin, and even in winter the warmth imparted to the nests by the bodies of the hens may serve to shield lice until the more favorable season of spring arrives. Change the material in the nest box at least twice a month, and burn up every vestige of that which is removed. It will not injure the nest box to burn it lightly, after the soft material is removed, and the hens will enjoy the new arrangement. Be careful, however, and perform such work away from any building, in order to avoid loss from fire.

THE SOIL FOR POULTRY

Soils that are mostly sand are more suitable for poultry than any other, as the water goes down immediately after a rain. Where the yards are sandy the filth is largely carried below by rain, and the fowls have a clean appearance. Such soils, being always dry, afford ideal conditions for young poultry, and the value of the land is increased by using it for that purpose. On many farms there are sandy locations that are not productive, often consisting of pure white sand, but such land can be profitable if used for poultry yards.

KEROSENE AS A REMEDY

Do not use kerosene on any portion of the body of a fowl, as it is an irritant, and causes suffering. It is sometimes used as a medicine for roup, but it is doubtful if it accomplishes the desired results. It seems to be a plain proposition that any substance not recommended as a medicine for human individuals should not be used for poultry, and probably some of the satisfactory results reported from the use of kerosene may be due to accompanying treatments. There are those who claim that kerosene is an excellent remedy for certain ailments, however, but it may be advised that its use should be with care, as it is repugnant to fowls, and has killed many.

CHEAP FATTENING FOODS

It is of advantage to have all fowls fat before shipping to market, and there are some foods that cost but little and serve the purpose well. In those sections where sweet potatoes are easily grown, and are very cheap, the feeding of small potatoes for fattening poultry for market induces rapid increase in weight. Cooked sweet potatoes thickened with cornmeal will put more flesh on a hen in the shortest time than almost any other kind of food. In fact, any food rich in sugar will fatten stock or poultry quickly, and there is nothing superior to sweet potatoes for that purpose. Such food, however, is not suitable for fowls that are laying, as with them the fat is detrimental to egg production. It pays to fatten for more weight, as excellent condition also adds to the prices in market.

Poultry Raising

BY P. H. JACOBS

THE PULLETS

Attention is frequently called to the late pullets, for the reason that some amateurs keep all the pullets—large or small—thereby increasing the cost of the entire flock. At this period of the year there may be quite a number of the pullets that are below three or four pound weight. If such pullets are of the large breeds or crosses therefrom, they will be too small for keeping over for the winter; that is, if the pullets have not now attained nearly their full growth they will not grow sufficiently to mature and be among the early winter layers. If they are cross-bred Leghorns, however, and the cold weather does not set in until late, they may begin to lay before winter. It is expensive to keep pullets of the large breeds, and even some of the best that have been selected should be discarded if they do not lay before winter begins.

LOW ROOSTS

It is maintained by some that perches are harmful, as the fowls are compelled to reach too close to the ceiling, and that straw on the floor, without roosts, should be preferred. Birds are prompted to go on the roosts because of the instinct of self-preservation, rather than for comfort, and while on the roosts are subject to cold drafts. In several experiments, where the roosts had been discarded, and the birds compelled to sit on straw on the floor, they were comparatively free from disease and no cases of lameness occurred. It is an experiment worth making, and if it is found that the birds do not thrive as well it will not be difficult to replace the roosts and the birds will be no worse off than before the experiment. Something depends upon the climate and poultry house, however.

THE USE OF DRY EARTH

Dry earth is the best material that the farmer can use under the roosts or on the floor of the poultry house. A box of dry earth is the best protection against lice that can be afforded, compared with other materials, and if used liberally on board or cement floors it assists in preventing drafts along the floors in winter,

torily as dry earth, and the whole is easily spread upon the soil. The use of dry earth, both in the stalls and on the manure heap, need not interfere with the use of other materials, such as leaves, cut straw or sawdust. Dry earth and kait make an excellent combination for preserving the droppings, especially if they are intimately mixed before being placed in storage.

UNSIGHTLY SCALY LEG

The unsightly appearance of the legs of the fowls, which occurs in some flocks, is due to minute parasites; and as they multiply rapidly, the difficulty soon becomes manifest with every member of the flock. The shanks are encrusted to such degree as to cause enlargement sufficient to interfere with locomotion. To explain the process, it may be mentioned that the shanks of fowls are covered with scales, some fitting more closely than others. In some varieties these scales are somewhat raised on the outer edge, and admit of free passage for the parasites to do their mischief. They cluster under the scales, forming hard lumps on the legs. When first discovered the shanks should be given a thorough washing with strong soapsuds, followed, when thoroughly dry, with an application of carbolized vaseline, or sulphur and lard. One or two applications, if thoroughly done, will generally suffice. The vermin that inhabit the legs do not go on the body. They are so minute that only in congregated numbers is their presence manifested, but the encrustation is so plain as to create dislike for the birds.

COLD-STORAGE SUPPLIES

The cold-storage method is one that will remain, and there can be no competition with it except to put on the market better poultry and eggs than the cold-storage warehouses contain. The large plants, which keep thousands of pounds of poultry until the ordinary supply fails, afford a market to many who could not otherwise dispose of their product, for in some sections the farmer sells to dealers only, and must accept prices which are usually very low. The storage plants are compelled to pay something more than the ordinary prices in a locality, or they



FLOCK OF HOUDANS

The Houdan occupies a high place in the list of pure-bred fowls. It is well known that this breed is bred more for its rarity with some than for practical qualities, but this is founded, no doubt, upon the fact of their rather uncertain and sparse distribution throughout the country. It is perhaps well known that the Houdans are one of the best of fowls, and are near the lead as table fowls, their flesh being rich and juicy, with a very large proportion of meat for the entire weight of the fowl. As layers, especially summer laying, the Houdans are unexcelled. Their eggs are very large, pure white in color, and are uniform in size, while they produce more than the average during the season. The Houdan is a non-sitter; the chicks are average in hardiness. It is known that all crested breeds are an earlier prey to lice and dampness than those not so adorned. As a cross with Light Brahmas or Plymouth Rocks, or any large fowl, the Houdans are unexcelled for practical purposes, and would, for such purpose, be one of the best fowls for the farmer or market poulterer. Their meat is dark in color, and they have dark legs. Many object to their crest, claiming that the birds are liable to become head-soaked if caught in rains. They are black and white in color and have five toes on each foot, being considered really French Dorkings.

and acts as a carpet on the cold cement floors, which are cold compared with boards. Dry earth also serves well as a material in which to scratch. It is the best absorbent that can be used in preserving poultry manure. Charcoal is also excellent, and so is land plaster, the plaster absorbing the ammonia instead of changing it to sulphate of ammonia directly, as many suppose. The use of dry earth as an absorbent is within the province of all, as it is easily procurable, and is a clean substance to handle. Even the soil quickly absorbs gaseous substances, and when dry earth is thrown over the decaying matter the disagreeable odors cease. There is no material that will absorb liquids as perfectly and satisfac-

cannot procure the desired articles; and they also prevent a heavy waste of valuable food by affording facilities for retaining such until a favorable period arrives for marketing the articles. But the cold-storage egg does not compete with the "strictly fresh" one, nor does the cold-storage carcass affect the price of that just off the farm and which is in "choice" condition. There is really nothing to fear from the cold-storage plants by the farmer who gives poultry his attention, but the farmer who cares nothing for breeds, who places no value on his hens, and who leaves them to care for themselves at all seasons, should learn more, year after year, regarding how to make poultry pay.



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Live Stock and Dairy

FORAGE CROPS FOR SWINE

THIS article is not to minimize the value of corn as a feed in the economic production of pork and for the growing of swine for breeding purposes, but rather to show that it is possible to grow hogs that will produce an excellent quality of pork at a profit in the dairy sections of the Eastern states.

For many years the production of pork has been largely confined to the Middle West, or the "corn belt" states, for as long as corn could be purchased for from twenty to thirty cents a bushel the farmers and feeders found it possible to produce pork on an exclusive corn diet and realize a profit on their feeding operations; but as the price of grain has advanced, without an equal advance in the price of pork products, it has necessitated a reduction in the cost of production, and it is my purpose to explain how this has been brought about by substituting a more bulky and less expensive ration for the growing pigs, and also one that would promote better health and get their systems in the best possible condition to make profitable gains when they are put on a fattening ration.

Perhaps the best way for us to study out a system of feeding would be to study the hog in his natural environments, and then plan our system of feeding to correspond with his natural appetite. We find that he is not a ranger, nor does he thrive on grass alone. Exercise he must have, but he should not be compelled to travel long distances for his food. We also find that he remains close to water and that he should have access to pure water at all times. He does not perspire like other animals, and it is essential that he have cool water to reduce his temperature.

With swine, as with other animals, food will produce better results when properly balanced so that it will nourish all parts of the growing animal, and it also tends to improve the appetite of the hogs and will make a better article of pork, than when one kind of food is used. The hog that is fed a ration composed of forage, and by-products from the dairy, and finished with grain, makes the very best class of pork. It is well marbled with fat and lean, thus insuring hams that are well adapted to supply a fancy trade. A coarse, fat ham is not the kind that is sought at the present time, especially after people have once tried a fine-grained, well-marbled ham; neither do they prize a fat side of bacon after they have learned to know the value and superiority of the sides that have been produced by feeding a balanced ration.

The value of a well-planned system of forage for a herd of swine will reduce the cost of feeding from thirty to forty per cent for the whole year. The size of pastures must be determined by the kinds and number of hogs that are kept. A good rule for a man to follow is to have plenty of yards and pastures, so that he can separate the hogs into bunches of uniform sizes and ages; they grow better, feed better and sell better when pastured and yarded in uniform bunches. You may have a number of pastures, and after using them a few years, turn them into corn or grain land, and you will be surprised to note the improved condition of the soil.

Plan your forage crops so that you will not be dependent upon any one kind, or you will have an abundance at one season, while at other seasons you will have no green feed for the swine. Among the forage crops that are best adapted to our soils and climate may be named rye, clover, alfalfa in some places, cow peas, common field peas, sweet corn, oats, barley, millet and rape. These may be sowed at various times, so that one will be ready for pasture as soon as the other fails.

All men who keep a dairy and find pork making a valuable appendage should not be slow to investigate the value of the legumes, for they are a highly nitrogenous food and can be grown with great benefit to the land and at a low cost. When we pasture a green crop we often find it necessary to plow under some of the forage, and this with the droppings from the swine while pastured and fed upon the field greatly improve the condition of the soil, freeing it from noxious weeds and increasing its capacity for holding moisture.

A number of writers have become too enthusiastic over forage crops for swine, and make the assertion that they can raise good hogs on grass alone without feeding any grain; but from our experience we find this is not so, and we have seen no good hogs that were so raised. I have seen a number of people try it, but without success.

It is an undisputed fact that hogs that are fed on a pasture ration to a large extent will produce more rapid gains when put into the feed lot than those that are grown on a less bulky ration. It insures good health and enlarges their capacity to digest and assimilate large quantities of concentrated food, thus insuring more rapid and economical gains.

W. MILTON KELLY.

THE SIZE OF THE RATION

H. F. B., of Oregon, writes thus: "Many writers advise feeding a dairy cow eight, ten or more pounds of grain in a day's ration. Does it pay or does it not? I enclose a clipping from the New York 'Sun,' in which it is stated that four pounds is all that can be fed with profit. Who is a fellow to believe? I live in a land of grass, but the grain I generally have to buy, and do not want to make any mistake."

There are many things to be considered in taking up the question of the best cow ration. Among these, and most important of them, I may mention the cow, the quantity and quality of the bulky portion of the ration, and the selling price of the cow's product.

There is no cow that will pay good returns for care and the most properly adjusted ration but the good cow. She must be a natural dairy cow. There are cows of this type that will, other things being equal, pay for the heavy ten or twelve pound ration more surely than other cows will pay for three or four pounds. Therefore, we want the cow bred in the direction of enabling her to use her food for dairy products.

Having this cow ordained to her work, it then becomes necessary to render all friendly assistance toward that work's accomplishment. This assistance contemplates that her feed shall be sufficient in quantity and proper in character, that she is at least normally nourished the year through. There must be no feast in May and June and a famine in August and September. She shall not be required to overexert her physical equipment in gathering her full feed. She must be protected from storms and sudden severe changes of weather. She must be treated as a business proposition—that to receive from her one must give to her. I am sure this point is fully understood by the intelligent reader, if it is not always followed by the owners of cows.

It is desirable that the ration meet the cow's needs in bulk; the cow must be made full. She can be filled to distention either with perfect pasture grass or good hay or dry straw. In the first instance she will be fully nourished; in the second, while she may have the capacity to contain enough cured hay to bring to her sufficient nutrients to supply her needs, she must use up too much of the energy contributed by the feed under consideration in her processes of rendering it available for digestion and assimilation; hence she has her faculties diverted from their normal functions of making milk. In the instance of the straw fulness she is drawing on her reserved forces, as it costs her fully as much as the straw yields her to get that yield.

Assuming that we start in May, when the pasture is at its best and the cow is in good health and in normal, thrifty condition, by grazing say six hours of the twenty-four she fully satisfies her desire for food, digests properly what she has eaten, maintains her normal weight and condition and milks forty pounds of milk testing five per cent butter fat. To do this she probably consumed from one hundred to one hundred and twenty-five pounds of grass and has had a balanced ration. Now, she did not make her milk directly from the feed eaten, but the feed supplied all the demands made by her milk-producing functions, and we may safely conclude that in the pasture-grass ration the cow found all the elements necessary for her to produce forty pounds of five-per-cent milk.

Suppose the grass grows old and harder to digest; or so short that the cow is overexerted to gather a full supply; or that she does not get a full supply, it follows logically that the milk flow diminishes and the cow declines in bodily weight.

It is well known that from the same amount of feed of the same quality some cows will produce twice as much milk as some other cows. There are differences in cows. One cow from a given feed will make the forty pounds of five-per-cent milk, while another from the same given feed will make forty pounds of three-per-cent milk; but it remains a fact that even the best cow eating the

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best feed, most scientifically balanced, cannot take more from the feed consumed than Nature in producing that feed put into it. As I have said, some cows will take more, others less; and while I think the extra heavy feeding advocated by some teachers and writers is seldom profitable as a continuous policy, I doubt very much whether the cow receiving but four pounds of the best grain feeds, added, for instance, to all the hay she will consume, can secure from such a ration sufficient nutrients to fully nourish her in her work of making thirty pounds of good milk.

The selling price of the cow's product must guide the business man in feeding her. If milk commands two cents a quart, the feeding may easily be too expensive; if eight or ten cents, the good cow may be fed very liberally, and a profit follow.

Whom shall you believe? The cow. Ask her about it. If she has good, abundant pasture, feed grain lightly. Keep her in good heart. If her winter feed is silage or roots and good hay, as a rule, unless dairy products sell high, from four to six pounds of proper grains will likely mark the limit of most net profit. If, however, by keeping a close account with the cow it shall be found that she will pay a profit for more feed, obviously that particular cow should have it.

W. F. McSPARRAN.

FEED MORE ROOTS

Many cattle feeders have practically gotten out of the habit of feeding roots to their cattle, because of the abundance of corn and corn fodder. The chemists have also assisted in this movement by showing that the nutritive value of roots is not great, as compared with the nutritive value of grains. But roots have a value greater than that shown by the nutrients as determined by analysis. There is a digestive value in the acids and in the bulk that no chemical analysis will determine. Roots have a stimulating effect in that they please the appetite.

Some object to the feeding of turnips to dairy cows, but this objection is not to be met with in the feeding of beef cattle and of dry dairy cows. The corn and corn fodder will be more effective when fed with roots than when fed without them. Now that the price of corn has risen to such a height it is necessary that its feeding be made as effective as possible.

With the increasing price of land it becomes necessary to make every acre produce as much feed as possible. A very great tonnage of beets or turnips can be grown on an acre of ground if the soil be properly enriched and properly tilled. The tops as well as the roots can be fed to beef cattle. The succulent character of the roots insures their complete digestion by the cattle. Mangel wurzels are particularly adapted to feeding, because they are relished by the cattle and can be grown in large quantities.

WM. H. UNDERWOOD.

DAIRY NOTES

The Denmark dairymen, noted the world over for their success in that particular branch of farming, have for some time been using lime for cleansing purposes, against the old-time custom of steaming all wooden articles used in butter making. They first scrub the barrels, tubs, churns, etc., in hot water, and while the surface is yet warm, they apply with a brush a generous coating of thick lime wash. The lime enters the pores of the wood, making it pure and sweet; removing all grease and sour smell from the floor and utensils, when it is finally washed off with a second bath of clear, hot water. They find this much cheaper than the use of washing soda, and far superior to its cleansing properties.

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tle Lake, Michigan, tract on easy terms. MRS. NELLIE W. MERITT, Marquette, Michigan.

Live Stock and Dairy

CHANGE OF FOOD

GOOD RESULTS FROM JUDICIOUS CHANGES

ALL sorts of stock go off their feed at times. This may be from some internal complaint, but very often it is traceable to their being fed too long on one kind of food. Bread is the "staff of life," for the human race and there are foods that take a like position in the animal kingdom. Sound sweet hay, for instance, is a material which a majority of farm animals never tire of. Oats, too, are an all-the-year-round food, particularly for horses, but in these days, when cakes, meals and condiments are so much employed in feeding, the appetites are very apt to clog. Inferior fodder, too, upsets animals, and no one will keep much stock or go on for long without finding that a change of food is desirable, indeed necessary. When indifference to food calls for such, some will imagine that a tonic or pick-me-up will quickly rectify all failings, and these are given; but few have very good results, and none lasting, as the improvement, if such takes place, is not permanent.

If the appetite fails from sickness, that is a different matter. Medical treatment will be needed then. That I do not deal with here, and confine my remarks to foods that have been given so long that the stock are tired of them. Great quantities are often given. If such is put before animals that have been kept somewhat short of food, they will eat ravenously for days, or maybe weeks, but a time comes sooner or later, generally the former, when the gorging is no inducement. It is then that feeders, particularly if the animal is being prepared for the butcher, worry over the upset and seek for correctives. The best of these are to give less food and change it partially or wholly. Hay is not harmful and may always be included. Roots, too, are never rejected; but they tire of the same meal, and a change of these always pays under such conditions as suggest them. Crushed oats are one of the finest correctives I have ever used. When nearly all else is refused these will be taken. If an oily meal goes down badly, substitute one

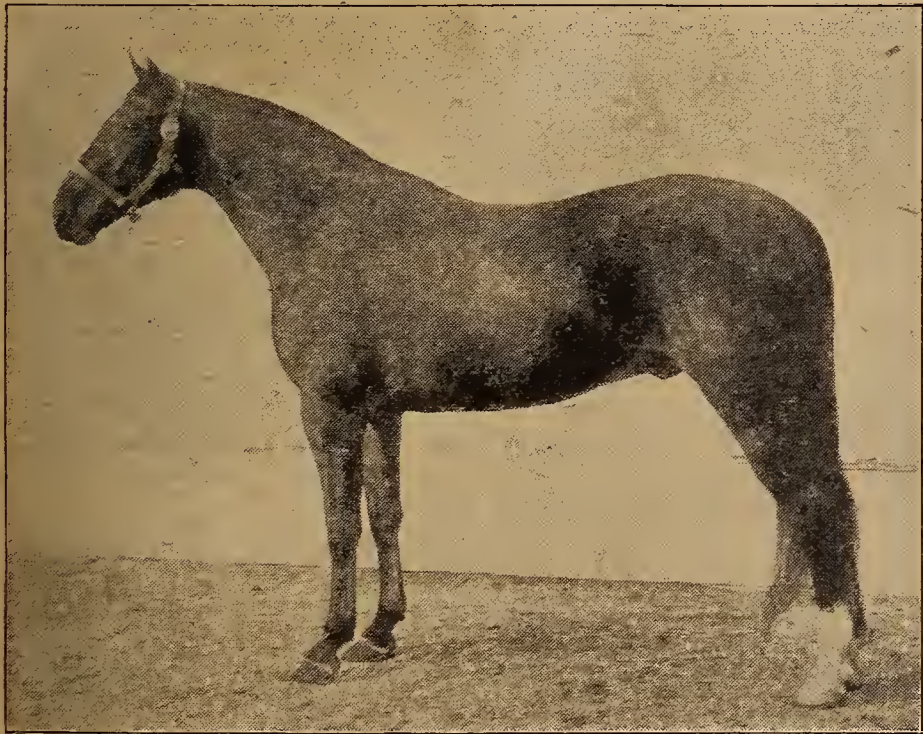
to coarse material is generally advantageous. It must not be inferred that I mean a change from superior to inferior foods. That is quite a different method, which I do not support. If, however, they have tired of inferior foods, superior will produce pleasing results.

The horse is confined to fewer foods than any other farm animal, and it calls for the fewest changes. Grain and hay not only build it up, but keep it going efficiently; but were it subjected to such foods as are utilized in the production of milk, beef and bacon, I believe it would call for and require a change as often as any.

Young calves are generally delicate feeders. I have never known them to refuse new milk unless given to excess, and the easy remedy then is to give less; but calves are not reared on milk so much now as in former days. Indeed, the scheming is to rear without it, or with as little as possible. Good substitutes have been found, but few answer the purpose as well as the real article, and when reared with artificial changes of foods will be found of very great assistance, not only in regulating the interior, but in encouraging development.

In connection with changes of foods I feel that some foods are credited with merits that they do not actually possess. One food may be used so long that stock tire of it, and another is given on which they pick up wonderfully. It is quite possible the former food was as good as the latter, and the change is only attributable to the altered conditions.

These remarks are very seasonable for winter, when stock are so much under artificial feeding, but even in summer we find a change makes great alterations. I have known both cattle and sheep grazing in a field where grass was both good and abundant to become tired of it. They were not particularly anxious to eat, neither did they get on as might have been expected from the facilities, but when changed into another field which was actually less bountiful, a change for the better was soon apparent; and if necessary and productive of good then, under such genial weather conditions, it



ERIN GO BRAGH

Sir Thomas Lipton's Famous Saddle Horse

with no oil. This is a decided change, and generally a most acceptable one, and it cuts both ways, as if dry meals are tired of, let them have oily matter. Do not merely put them on the changed rations for a day or so, but let them have a spell of it. This will be the most beneficial.

A good deal of food is given to some kinds of stock in a very sloppy condition. They often get terribly tired of it, and dry materials are gone for greedily. Milch cows are given a lot of moist food, in the hope that this will increase the milk, but when the time comes, which it certainly will if persisted in, when they are indifferent to it, there should be no delay in introducing more dry food.

Pigs are often extremely nice. How frequently do we see their troughs nearly full of food that has been given hours previously. This is especially the case when fattening is going on. That they should refuse is wondered at; but experienced feeders are in no way surprised, as they know the results of persisting with one food only. A change from fine

surely applies with more force in the winter season, with its modes of feeding and climatic drawbacks.

W. R. GILBERT.

THE EVOLUTION OF THE HORSE

A careful historical study of the modern horse is contributed to the London "Quarterly Review" by Professor J. C. Ewart. He informs us that the oldest fossil horses known were about twelve inches in height, but more like members of the dog family than dwarf horses. They were four-toed. Then came a larger species, which measured fourteen inches at the shoulder, still carried four hoofs, and the heels (hocks) were not yet raised very high from the ground. Then came the fleet, three-toed Neohipparion, which was built like a Virginian deer, "delicate and extremely fleet-footed, surpassing the most highly bred modern race horse in its speed mechanism." The writer distinguishes the horses of the steppe, forest and plateau types. The steppe variety has an upright mane and a mule-like tail, and

is stubborn and suspicious. It rarely reaches a height of thirteen hands. Its long, bent face and long, slender limbs make a contrast with the forest horse, which has short, stout limbs and a short, broad face almost in a line with the cranium, and usually striped or spotted, and timid in disposition. The plateau variety is marked by a small, narrow skull, long neck and chest, small, narrow ears, large, fine eyes, full muzzle, and small, usually rounded hoofs, and is intelligent and amiable. The Professor concludes that the improved breeds of the modern horse are not merely a blend in varying degrees of a fine bay horse from North Africa and a coarse, thick-set, slow horse of Europe and Asia, but in some cases a blend of three or more distinct types, including those of steppe and forest varieties.

HOGGING RYE

We have tried hogging rye a number of times, and our experience has been very satisfactory. If any of the readers of FARM AND FIRESIDE have poor and treacherous soil that they are thinking of sowing to wheat, let them give rye a rational thought. Rye is more hardy and tenacious, and will produce crops where wheat would have failed; then hogging the rye on the soil leaves most of the produce on the ground, adding much to its mechanical condition and fertility. The method reduces labor to a minimum.

The writer has just come into possession of a thin clay field that has not produced a good crop for ten years; neither could a permanent grass catch be secured. This fall the poor field will go into rye, and a second year, also; after hogging these two crops on the ground, the field may be seeded to grass with some degree of confidence.

GEO. P. WILLIAMS.

There is a great difference between honest and dishonest advertisers. When any advertiser promises more than he performs, or offers something free when really it is not free, he is dishonest. FARM AND FIRESIDE refuses to publish dishonest and misleading advertisements. Beware of the advertiser who uses "Free" as a catchword.

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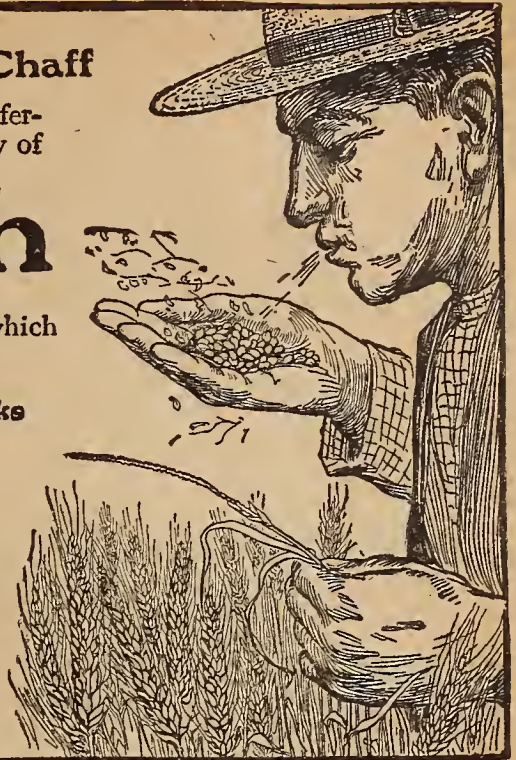
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FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5¢ discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

TO OUR CANADIAN SUBSCRIBERS

Because your government has increased by three times the cost of mailing to Canada all publications from the United States, it has become necessary for us to increase the subscription price of FARM AND FIRESIDE to Canadian subscribers. Hereafter all new subscriptions and renewals for Canadian subscribers must be paid for at the following rates, which barely pay the additional cost of mailing:

Farm and Fireside, one year, 50 cents.

Farm and Fireside, three years, \$1.00.

Please bear this in mind when sending us money for your renewal. It will save us a lot of trouble and bring your paper promptly if you do.

If you could see the large amount of advertising of undesirable and doubtful character, or worded extravagantly, which FARM AND FIRESIDE is continually refusing, you would appreciate what we mean when we say FARM AND FIRESIDE guarantees its advertisers.

WHAT MORE COULD I WANT?

"I have here over a hundred acres of land, and it is all paid for. What more could I want?" said a well-to-do farmer the other day.

That short sentence dropped carelessly gives the opinion of too many soil tillers. Far too many are satisfied to own their own farms—many to only half own them. We never think about its being our duty as well as to our advantage to get the most we can out of our land. If the farm affords us a comfortable living, we don't want any more. If we can get five hundred to one thousand dollars from it, we never think of the possibilities of getting three thousand dollars.

There are hundreds of thousands of farms in the United States that are not producing anywhere near the amount they are capable of producing. For instance, the average yield of wheat in England is nearly thirty bushels an acre; in the United States, less than fifteen.

No doubt one of the principal reasons for our light average crops is that the owners or workers of land do not push the cultivation to its fullest extent. They are like the man who said, "What more could I want?" As long as they get a comfortable living they don't want any more. This is where they make a great mistake. Farm land will stand constant cultivation if well taken care of. When it is under regular and proper cultivation it is in much better condition than when idle or under careless cultivation. Make use of all your land and use it to its fullest efficiency. Make all the money from it that you can, remembering, of course, that money is not everything, and that you are making it to add to the comforts of the home and the happiness of the family.

TARIFF REVISION

We hear a great deal nowadays about tariff revision. There seem to be tariff revisionists everywhere. Well, there certainly is need of tariff revision. Industrial conditions change from day to day, and the old schedules do not fill the present conditions. There is not much disagreement about the need of revision in general.

However, we don't hear much about revision in particular, what rates ought to be lowered, what ones raised, or what articles should go on the free list, be-

cause of the great diversity of opinion regarding the details of a new schedule.

The fun will begin when Congress takes up the subject, and the revisionists come together and can't get together. The East wants certain changes the West don't want; the North wants this, the South that, and the Middle don't agree with any of the others. That's where the "stand-patters" have the advantage over the revisionists.

INTENSIVE FARMING

Intensive farming is a much-neglected art. Some men think it an impossibility; others, an absurdity. But in fact both are wrong, for it is a reality. The day of limitless acres and endless forests has gone. It is unfortunate that the earth doesn't grow with its population; but it doesn't, and this fact puts us face to face with the problem of how to get the most out of our land. As population increases farms must necessarily grow smaller. Some farmers are making more from ten acres than others make from a hundred acres. What a man can get from his farm depends a good deal on the farm, but a good deal more upon the farmer.

Many market gardeners and fruit growers utilize every square foot of available space, and get large crops and big prices. The close, personal attention they give their land and crops shows in the results. This is in direct contrast to the belief which so many farmers have, that the less men they have working for them, the more they save. Land needs to be carefully cultivated and looked after to give best results. Not enough labor is more of waste than too much labor, for besides the loss on the crops there is the loss caused by neglecting the land.

Intensive farming never injures the land, but on the contrary improves it through close cultivation. If the men of this country would run their farms on the intensive plan, they would not only largely increase their incomes, but vastly improve their farms.

LOOKING ON THE BRIGHT SIDE

The venerable President James B. Angell of the University of Michigan is one of those clear-sighted, broad-minded optimists who look forward with hope and confidence to the future of this country.

Inviting the carping pessimists of the East to "cross the Hudson, come out to the Middle West and be converted," he says:

"I know that among many persons in the East there is a spirit of pessimism, a brooding and gloominess over the outlook. Let all such come out here and we will cure them. We will show them a broadening spirit of responsibility, a higher plane of ideals and a serious endeavor to make things better.

"I know the temperament of New England. I was born in Rhode Island and educated there. I know the inclination of the men of Boston to look with misgivings on what is coming and to doubt our democracy, our financial virtue and our political morals.

"To a certain extent you cannot blame Boston. It has had more than its share of bad government. And New York has had some experience. Philadelphia, too, has been through hard trials of public corruption.

"But out here in the Middle West, though we have our bad spots and occasional conditions not to be commended, there is a general pulling together toward higher and better things in public and private life. We have no fears, no gloom, no forebodings about the future. We look forward with confidence, for our young men are setting out inspired with loftier ideas and firmer principles than ever before."

THE PEOPLE AND RAILROAD RATES

The period of the year 1907 during which American state legislatures were in session has been a most remarkable one for the amount of legislation regulating—or attempting to regulate—railroads in almost all their activities. Thirty-five states in all attempted to enact laws reducing freight or passenger rates, establishing railroad commissions, increasing the powers of existing commissions, regulating car service, demurrage, safety appliances, block signals, free passes, capitalization, liability for accidents to employees, hours of labor, blacklisting, strikes, etc. Scarcely a department or single activity in railroading was overlooked.

In a comprehensive article, appearing in the August American "Review of Reviews," Mr. Robert E. Ireton summarizes the results of the state legislature of half a year—to July 15th—on the subject of railroad regulation. We summarize his conclusions.

Real constructive legislation was enacted in many states in regard to corporate control, safety appliances, block signals, working hours, rights of employees, railroad mergers, valuation, capitalization, publication of rate schedules, etc., while in the states of South Carolina, South Dakota, Tennessee and Wisconsin the rate question was given fair and temperate consideration. In South Carolina the Senate negated a bill for a two-and-one-half-cent rate, and instead of assuming the guilt of the railroads, appointed a committee to investigate discriminations. South Dakota authorized its commission to establish a maximum passenger rate of two and one half cents a mile, and in addition instructed it to ascertain the actual cash value of railroad property in the state on which to base equitable rates. Tennessee refused to pass a bill reducing passenger fares, because there was no public demand therefor, and, further, "in view of the fact that the railroads in Tennessee were not earning from their passenger traffic, in proportion to the trains run, as much as the average in the United States." Wisconsin's action is contradictory. When the commission ordered the roads to adopt a two-and-one-half-cent fare the latter acquiesced. An attempt to enact a flat two-cent rate passed the House, but was defeated in the Senate on June 14th by a vote of 21 to 6. On July 11th, however, a two-cent fare bill was adopted by the Senate by a vote of 9 to 8. Lieutenant-Governor Connor casting the deciding ballot. Arizona, Florida and Maine had measures before their legislatures to reduce passenger rates, but these were not successful. Texas had almost one hundred railroad bills presented for its consideration, and one was a measure to reduce passenger charges. It failed to pass, but may become a law at a special session. New York adopted a two-cent bill, but it succumbed to the governor's veto. A Public Utilities Bill, promoted by Governor Hughes, generally regarded as the most comprehensive and far-reaching measure for corporate regulation ever adopted in any state, became a law. Kentucky, Louisiana and Maryland had no legislative sessions; and California, Connecticut, Delaware, Idaho, Massachusetts, Mississippi, Rhode Island, Utah and Wyoming gave little or no consideration to restrictive railroad legislation during the recent sessions. In those states no hostility to the railroads was shown, save that in Massachusetts a resolution was adopted calling for an investigation into railroad passenger fares, with a view to their uniformity and equalization. California's action shines in marked contrast with most of her sister states. The Sacramento lawmakers passed a law which reads: "Every railroad corporation has power to regulate the time and manner in which passengers and property shall be transported, and the tolls and compensation to be paid therefor, within the limits prescribed by law and subject to alteration by the Legislature. To regulate the force and speed of their locomotives,

cars, . . . and to establish, execute and enforce all needed and proper rules and regulations for the management of its business transactions usual and proper for railroad corporations."

An analysis of the general results shows that passenger fares were either actually reduced or affected in twenty-one states: Alabama, Arkansas, Georgia, Indiana, Illinois, Iowa, Kansas, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Oklahoma, Pennsylvania, South Dakota, Virginia, West Virginia and Wisconsin. Two-cent rates now prevail in Arkansas, Indiana, Illinois, Minnesota, Missouri, Nebraska and Pennsylvania; and in Ohio, since 1906; two-and-one-half-cent rates in Alabama, Wisconsin and North Dakota. North Carolina has established a two-and-one-quarter-cent rate; West Virginia, a two-cent rate for railroads over fifty miles in length; Iowa, a sliding scale of from two to three cents a mile; Michigan, a two, three and four cent rate; Kansas, Maryland and Mississippi, two-cent rates for mileage books; the railroad commissions of Georgia and South Dakota have been authorized to establish a two-cent and a two-and-one-half-cent rate respectively; and Oklahoma specifies in its new constitution a maximum charge of two cents for passenger fare. Virginia's Corporation Commission has adopted a two-cent rate for trunk lines, a three-cent rate for minor roads, and a three-and-one-half-cent rate on one or two lines. Kansas may adopt a flat two-cent rate on the supposition that what is remunerative in Nebraska should prove equally remunerative in Kansas!

Freight charges were lowered in many states. The Commodity Freight Rate Law of Minnesota is probably the most scientific and equitable, and is being used by many Western roads as a basis. Commissions in other states have adopted it as a model.

Laws prohibiting free passes were enacted in Alabama, Indiana, Kansas, Maine, Minnesota, Nebraska, Nevada, New Hampshire, New York, Oklahoma, Oregon, South Dakota and Texas.

Eleven states created railroad commissions: Colorado, Indiana, Michigan, Montana, Nevada, New Jersey, New York, Oklahoma, Oregon, Pennsylvania and Vermont. Sixteen others gave increased power to existing commissions, apart from rate regulation: Alabama, Arkansas, Florida, Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, New Hampshire, North Carolina, South Carolina, South Dakota, Texas, Washington and Wisconsin.

Montana's new commission held its first meeting at Helena on July 10th, and declared the freight and passenger rates now in force to be the maximum rates hereafter to be charged, with the exception of a coal rate on the Great Northern and a lumber rate on the Northern Pacific, which will be fixed by agreement after consultation with the roads.

Suits have been instituted to test the legislation recently adopted in Alabama, Georgia, Indiana, Iowa, Minnesota, Missouri, Nebraska, Nevada, North Carolina, Pennsylvania and Virginia. The railroads in Arkansas, Kansas, Michigan and Wisconsin are giving the new rates a trial; similarly, in Illinois, for ninety days, after which suit will be filed if the laws are confiscatory.

In Missouri the state and federal courts became involved, and by agreement the two-cent law went into operation for ninety days from June 19th. After its practical results are known the federal court will pass on its constitutionality. A similar conflict between state and federal authority has been precipitated in Nebraska by the filing of counter suits; while in North Carolina, Judge Pritchard, in the United States Circuit Court at Asheville, has enjoined the enforcement of the new laws on evidence presented by the railroads, and has ruled that the latter had established a prima facie case of attempted confiscation.

Open the Door of Your Heart

BY EDWARD EVERETT HALE

Open the door of your heart, my lad,
To the angels of love and truth;
When the world is full of unnumbered joys,
In the beautiful dawn of youth.
Casting aside all things that mar,
Saying to wrong, "Depart!"
To the voices of hope that are calling you,
Open the door of your heart.

Open the door of your heart, my lass,
To the things that shall abide,
To the holy thoughts that lift your soul
Like the stars at eventide.
All of the fadeless flowers that bloom
In the realms of song and art
Are yours, if you'll give them room,
Open the door of your heart.

Open the door of your heart, my friend,
Heedless of class or creed,
When you hear the cry of a brother's voice,
The sob of a child in need,
To the shining heaven that o'er you bends
You need no map or chart.
But only the love the Master gave.
Open the door of your heart.

California's Great Nature Lover

BY MORRIS WADE

IN the year 1900, when the steamer of the Harriman Alaska Expedition arrived in sight of the Stikine Mountains, she had on board two of the noted naturalists in our country, John Burroughs and John Muir. Mr. Burroughs was on the bridge of the boat when the mountains came in sight, and he called out to John Muir, who was on deck:

"Hello, there, Muir, you should have been up here twenty years ago enjoying this, instead of sleeping down there in your bunk in the cabin!"

And John Muir cried out in reply: "And you, John Burroughs, should have been up here twenty years ago instead of sleeping down there in your cabin on the Hudson!"

Both men, Nature lovers by birth, enjoyed the scene spread out before them as only the natural-born Nature lover can enjoy "God's Old Testament," as Theodore Parker once called Nature.

John Muir has been less read and known than John Burroughs, because Muir has written far fewer books than John Burroughs. He has cared more to keep on discovering new things in the world of Nature than he has for writing of the things he has already discovered. He abhors being shut up within four walls, and prefers to be always on the tramp. It is doubtful if any man of his years—he will be seventy his next birthday—has walked more miles than has John Muir, nor has any man spent more time alone in the great forests and in the mountain fastnesses. He has gone many months without seeing a single human being, and he has made many valuable discoveries. Long before the discovery of gold made Alaska familiar to Americans, John Muir had explored its glaciers, and long before the rest of the world knew anything about the wonderful Sierra Nevada, except through the mining operations of the Argonauts and Bret Harte's stories, John Muir was living up among their peaks and studying their geology and their plant life. There has never been a greater living exponent of the simple life than John Muir. A really remarkable thing about his tramping all over the globe in all kinds of weather, both summer and winter, is the fact that he has always disdained pack horse, tent, blanket and firearms. For many of the thirty or more years that he has spent in studying the Sierras as no other man ever studied them, his camp equipment has consisted of a tin cup, a packet of tea, a bag of bread and a hand ax. Thus free from cumbersome baggage, he has gone anywhere almost that any living thing could go excepting the birds. One of the most important of his discoveries was the Muir glacier in Alaska, one of the greatest and most wonderful glaciers in the world. He was one of the party that went with the expedition in search of DeLong, and he has wandered away by himself to study the glaciers and the mountain formations of Sweden and Norway. His years of study and wandering in the Sierras have been of great value to the world of science. Among other things he has been able to prove conclusively that the Yosemite were formed by glacial erosion, and not by a prehistoric cataclysm. He discovered the principal glaciers, and he was the first to give to science its first really accurate knowledge of the wonderful Big Trees of California. His researches in Arizona resulted in the discovery of wonderful petrified forests, and he may be said to be the originator of our system of scenic parks and national forests. If there is anything that arouses the ire of this true lover of Nature it is the sound of the woodman's ax. His constant cry is:

"Woodman, spare that tree."

Nothing grieves him more than to see the great monarchs of the forest felled to the ground. It is a species of sacrifice or vandalism against which his voice and his pen have always made protest.



The work of John Muir has given extensive additions to the knowledge of botany and geology, and he has given to the world some Nature literature that is never likely to arouse the spirited and unfortunate controversy that has taken place between President Roosevelt and Mr. John Luther Long. Mr. Muir's knowledge of Nature is so accurate and exhaustive, that one must have a good deal of temerity to question it.

This great student of the world of Nature has lived his own life in his way heedless of the customs, the criticisms or the standards of others. He has been as indifferent to worldly honor and glory as was Thoreau, and his life has been as simple as was that of the Concord "Nature crank," as he was sometimes called. John Muir has kept even more remote



JOHN MUIR, NATURALIST

from the haunts of men than did Thoreau, and now that he is threescore and ten years of age he is still a lover of the solitudes, and it is with regret that he is wandering less and writing more. He has written a good many magazine articles and has published a volume on "The Mountains of California," and another one, entitled "Our National Parks." He has traveled in Russia, India, Manchuria, Siberia, Australia and New Zealand, always avoiding the crowd and going alone when it was possible to do so. Harvard University has conferred an "A.M." on him, and the University of Wisconsin has given him the degree of LL.D. His early boyhood and manhood were spent on a farm in Wisconsin, but he was born in Dunbar, Scotland, on the twenty-first of April, in the year 1838. No doubt the advice of John Muir to the world would be similar to that given by Young when he wrote:

"Read Nature; Nature is a friend to truth;
Nature is Christian, preaches to mankind,
And bids dead matter aid us in our creed."

The Plains of Abraham

QUEBEC, Canada, will next year celebrate on an elaborate scale the three hundredth anniversary of its founding, and among the special features scheduled is the dedication of the historic Plains of Abraham as a national park. The whole section is one of rare interest to lovers of American history; and the Quebec celebration will not only attract all Canada, but the United States will undoubtedly send its thousands. The Quebec trip is delightful any time, and with the additional attraction next year the hustling Canadian city will probably be taxed to its utmost.

To the school boy or girl the story of the great battle fought on the Plains of Abraham outside of Quebec, between the English forces under General James Wolfe and the French under General Montcalm, has never failed to be interesting, and indeed equally so to most grown-up folks.

The English troops had lain before the city for two months, and at last Wolfe and a part of his army climbed the cliffs of the Saint Lawrence, which had been deemed inaccessible and at daybreak gave battle to the astonished foe. The ascent was accomplished in the night and had been planned for with considerable care. It was found impossible to take the city except by a surprise. General Wolfe rose from a sick bed to lead the effort. As he neared the place of landing he repeated

to those in the boat with him a verse from Gray's "Elegy":

The boast of heraldry, the pomp of power,
And all that beauty, all that wealth, e'er gave,
Await alike the inevitable hour;
The paths of glory lead but to the grave.

He also remarked: "I would rather be the author of that poem than to have the glory of beating the French to-morrow."

The cliffs were climbed, and the amazed French strove to drive back the now desperate foe. Wolfe fell, mortally wounded. He lived just long enough to learn that the French were giving way. Montcalm was also mortally wounded. To-day a monument stands in the governor's garden, which slopes toward the river in Quebec, and equally commemorates the bravery of these two representative soldiers.

Immigration Commission

THE immigration problem, ever a perplexing one to this country, promises to receive new light and helpful solution as a result of the exhaustive study being given by the special commission sent to Europe by the United States. The commission, authorized by the immigration bill passed by the last Congress, consists of three senators, three members of the House of Representatives, and three citizens appointed by the President.

The commission is carefully studying the immigration laws of all the European countries, the methods of examining emigrants before embarkation, the character and occupations of the regions from which the larger number of people come to America, and all the other matters which may serve to improve the handling of the immigration problem at the present time, and to furnish a basis for intelligent legislation in the future. Much is expected from the work of this commission.

Geronimo Once Again

THE old Indian war chief Geronimo has again come into the light of the press, this time through the death of his eighth and last wife. Geronimo is seventy-seven years old, and he realizes that his declining years are upon him, therefore it is not to be unexpected of him that he marry a ninth time some young squaw who will look after him in his old days. Three years ago Geronimo joined the Dutch Reformed Church. The government officers declare, however, that they are too well acquainted with Geronimo to allow him to go about the country with all the liberties of an American citizen, as his continued hatred of the white man is still often indicated, and it is said of him that if he were allowed to drink rum it would require a whole company of United States soldiers to corral him and bring him under subjection.

Geronimo says the Apaches taught that the Great Spirit did not interest himself in the petty quarrels of men, and that warriors should seek their own revenge. When he was twenty years of age Mexicans murdered his young wife and three children in a defenseless camp. In a raid for revenge he led a party that exterminated the Mexicans and he was elected chief of the tribe. He then began a career of blood and pillage that extended over forty eventful years. He expressed his contempt for the Spaniards when at the close of the Spanish-American War he dryly observed that it took the United States a smaller number of weeks to whip Spain than the number of years required to subdue him and his small band of savages.

At the School Farms

THE experimental stage of the children's school farm is passed, and in many of the big cities of our country the schools' harvests show remarkable size and condition. The harvest season has been one of great excitement for the young farmers, who have taken great interest and pride in the result of their season's work. The school farms have surely come to stay; the city needs them. They teach the youngsters industry and to study Nature first hand.

"It has done much more," said Mrs. Parsons of the New York school, "than teach a few hundred children how to grow some vegetables. In the unruly it has turned activities once destructive to construction and painstaking; it is teaching private care of public property, honesty, application, self-government, justice, courtesy and a love of Nature. The little

farmers have learned that work can also be a pleasure, and many of them can now be guided into doing things useful where once they thought doing anything useful was to be avoided.

"There are children here whose parents are abjectly poor, others whose fathers own a house or a prosperous business, and for one class as for the other watching the development of Nature seems to fill their thoughts. The interest each takes in his or her plot is intense."

Irrigation Congress Next Month

THE fifteenth National Irrigation Congress will be held in Sacramento, California, September 2d to 7th next. It will be a forestry congress also, and the discussions will include questions of national forest-reserve extension and administration, as well as national irrigation. The irrigation congress is chiefly notable as having been the center of an agitation that has resulted in the national government undertaking to build irrigation systems in the Western states with moneys received from the sale of public lands in those states, under provisions that require ultimate repayment to the national treasury by the lands so benefited. The funds available for this work under the provisions of the act are rapidly approaching the forty-million-dollar mark.

Hobson's Plan

BE IT said, to the credit of Richmond Pearson Hobson, of "Merrimac" fame, that he has shown the district which he represents in Congress that he has ideas outside and above that of expending one hundred million dollars for a new navy.

When Captain Hobson was campaigning he found that the farmers were eager for knowledge along certain practical lines upon which the government is spending immense sums. He discovered that the information which the government is accumulating does not reach the average farmer engaged in actually tilling the soil, and he determined to make an effort to remedy this deficiency.

The matter was laid before the Department of Agriculture, which was eager to co-operate with the young congressman, and the lecture tour was arranged. Captain Hobson and the four experts spoke at seventeen places and were heard by large and enthusiastic audiences. William S. Hall, a forestry expert, pointed out to the people the folly of allowing the lumber companies to strip the country of its magnificent forests. Dr. A. J. Bonstell talked about soils and agreed to have a thorough soil survey made of every county in the district. R. S. Wilson discussed intensive cotton culture, and will make another visit to the district in September to assist the farmers in the effort to grow better cotton and more to the acre. S. C. Lancaster, the good-roads man, studied the possibilities of highway building in that section, and selected a spot for the construction of a specimen mile of the best adapted road.

The experiment was watched at Washington with great interest, and its unqualified success was not less gratifying to the Department of Agriculture than to Captain Hobson. It solves the problem, says the Rochester "Democrat and Chronicle," of how to place the knowledge in possession of the department in the hands of the individual to whom it will be of practical value. Ambitious congressmen will also appreciate its advantages, and the department expects to receive many requests for the loan of its experts in connection with similar campaigns for the promotion of practical education in farming.

Traveling Through the Air

THE airship problem isn't near solution by any means, but the example set by Germany leans much in that direction. The latest development along the line in Emperor William's progressive country is the establishment of an aero college, where students will be taught all the known twists and turns of aerial navigation, and to the worthy and well-qualified regular diplomas will be issued.

In view of the exceptional expense attendant upon such a course of instruction, more particularly the cost of the frequent inflation of balloons, the tuition charge for a year's course has been fixed at six hundred marks (\$149), the same to be paid in monthly instalments and in advance.

The curriculum embraces the following: Division I.—(1) Calculation of volumes; (2) the cutting of the materials of a balloon; (3) preparation of impermeable fabrics; (4) construction of nets; (5) safety valves; (6) lectures on the theory of aerial navigation.

Division II.—(1) Inflation of balloons; (2) ascent of passengers; (3) physical instruments employed; (4) meteorological observations; (5) independent management of a balloon; (6) lectures on the problems of aerial navigation, dirigible balloons, aeroplanes and motors.



"I NEVER reckoned I'd live to see the day when my things would be sold at a vendoo!" sobbed poor old Mrs. Pickett, as she sat in her big green rocking chair holding a corner of her checked gingham apron to her streaming eyes. "I reckon the very cheer I'm a-settin' in 'll have to go, an' I'll be turned out with nothin' but the clothes on my back!"

A tall, slender girl, about sixteen years old, who had been kneeling by her grandmother's chair, vainly trying to comfort the old lady, rose and said, "Oh, no, grandmother, I don't think it will be as bad as that! I will see to it that your old chair and grandpa's are not sold. You can save out such things as you care for most, but you know that we shall not need half of the things in the two little rooms that we're going to live in at the village."

"Two little rooms in the village!" cried the old lady, throwing up both hands with a fresh burst of tears. "An' I've got to come down to two little rooms, when I've been used all my life to plenty of room, with my big closets an' but'ry an' good dry cellar an' nice garden an' all that! Oh, Dotty, what on earth could your Grandpa Pickett have ever been thinkin' of to be so keerless? Dear me! dear me!"

"He didn't know, grandmother. None of us could know that he'd be taken away as he was," replied the girl, her own eyes filling with tears.

Grandfather Pickett had been killed instantly by a fall from his haymow two months before. He had been a kind and good man, but unwisely eccentric in some respects, since he had always made it a rule to tell no one, not even his wife, of his business affairs.

"Women hain't no head for business; their capacity lays in other sp'eres," had been one of Grandfather Pickett's sayings. So his wife had never been taken into his confidence, and at the time of his death she knew almost nothing about his private affairs.

Some truths she soon discovered, to her sorrow. One of them came home to her with stunning and cruel force five days after the funeral, when Mr. Hiram Parks, a money lender living in the village, came to tell her, in his cold, businesslike way, that the mortgage he had held for ten years on the Pickett farm had never been paid, and that a settlement must now be made. He had, besides, a note for five hundred dollars, given him by Grandfather Pickett at the time the latter had built his new barn and added the last twenty acres to his farm. On this note nothing but the interest had been paid.

Poor, dumbfounded Mrs. Pickett had not even known of the existence of the notes.

"An' my husband never paid you anything on the note nor the mortgage?" she asked Mr. Parks.

"No, ma'am, nothing but the interest. That was paid up regular enough. He often said he could pay some on them if he'd a mind to, but he'd rather wait and pay it all off in a lump. I supposed from that he had money in the bank or loaned out, or invested in something, so it was bringing in more interest than he was paying me."

But a careful search among Mr. Pickett's papers did not give evidence that any one owed him a dollar, and a visit to the bank at the village proved that he had no money there.

"He never would put money in the bank," said Mrs. Pickett. "That was one of his odd ideas, an' he'd never pay for anything in payments. He always wanted to pay it all in a lump. But I always thought that mortgage must be 'bout all paid off, an' it can't be that we've lived up all we've got out of the farm in all these years, with us sellin' three an' four hundred dollars' wuth of stock at a time. If Ira had only told me more 'bout his affairs! Now that he's gone I've just got to meddle with business, whether I've any head for it or not. Dear me! dear me!"

All her lamentations ended with that pathetic "Dear me!" and a sorrowful shake of her gray head.

Mrs. Pickett and her granddaughter, Dorothy, were left alone. Dorothy was the daughter of Mr. and Mrs. Pickett's only child, who, with his wife, had died when Dorothy was only five years old,

and since that time she had been the light and joy of the fine old farmhouse.

"An' I've taken such comfort in thinkin' that your gran'pa an' me would leave you so nicely provided for, an' in a home of your own, when we were gone. Dear me! dear me!"

"It don't matter about me, grandma," Dorothy said. "I am sorry only on your account. I can teach, or sew, or work in a store, or do something else, and we can be very cozy and comfortable in our two snug little rooms. There will be some money left for you after the note and the mortgage are paid."

It was decided that there should be a public sale, or vendue, of the effects not needed for the new home to which they were to go.

A "vendoo" was almost always attended by everybody in the neighborhood, and the occasion was a semi-holiday. So there was general interest when the posters appeared announcing that Mahala J. Pickett, executrix of the estate of Ira W. Pickett, would, on October 10th, offer for sale such and such carefully described articles.

Mrs. Pickett had a sorrowful duty in indicating the things which she consented to sell.

"They shan't have my mahog'ny chist of drawers, nor my haircloth sofa, nor my flowered carpet, nor my two big rockin' cheers that my father an' mother begun housekeepin' with! An' they shan't have—Oh, dear, dear, there's nothin' I do want 'em to have!"

Poor old lady! She found that even the simplest and most ordinary of her belongings were dear to her.

"There's that green cupboard with the glass door, Dotty," she said. "I s'pose it'll have to go. We've got the red one, an' I s'pose we shan't want two. An' there's that old oak chist up in the attic; it might as well go, an' I reckon Rachel Day 'll bid it in. She wanted to buy it of me once, thirty years ago. I can't bear to think of her havin' any of my

strong prejudices and great firmness. She never sought a quarrel, and never continued one long if forced into it; but she simply and for all time dismissed her enemies from her friendship and affection.

"When I'm done with anybody," she said, "I'm done with 'em!"

Acting on this unkindly and unchristian-like principle, she had "dropped" a friend of her girlhood and early womanhood twenty years before the death of her husband.

Her son had quarreled with the only son of her dearest friend, Mrs. Rachel Day. The mothers had unwisely taken the matter up, and not even the common sorrow that came upon them in the death of their sons in after years had served to bring them together. Each had waited for the other to speak, and both had kept silence.

Mrs. Day came to the vendue, as Mrs. Pickett had predicted.

Mrs. Pickett sat in the big rocking chair on the little porch and watched the progress of the sale through a blinding mist of tears.

Other friends came and spoke words of cheer and sympathy, but Rachel Day, prosperous and happy, kept aloof. Occasionally she glanced toward her old friend, as she sat on the porch, a pathetic figure in her widow's weeds, her gray head bowed, and her handkerchief often at her eyes; but if Mrs. Day felt sorry for Mrs. Pickett she did not say so.

"Going, going, going, gentlemen and ladies! Four and a half has been offered for this solid oak chest, as good as it was the day it was made! Four and a half I'm offered. Who'll make it five? Five, five, five—who says it? Are you all done, ladies and gentlemen? Third and last call, and—sold to the lady with the brown silk dress and the black lace shawl!"

The lady with the brown silk dress and the black lace shawl was Rachel Day. Mrs. Pickett fancied she saw a gleam of

she and Dorothy were left alone in the almost empty house. Mr. Parks had given them until the next week to complete their arrangements for leaving. Then he proposed to take possession of the house and farm.

Dorothy found much to do during the rest of the day. The one cow Mrs. Pickett had kept had strayed away, and when milking time came Dorothy went in search of her.

It was nearly dark when she returned, driving the cow through the grass of the meadow lot. She had left her grandmother alone, and was surprised to hear the sound of voices in the kitchen when she returned to the house with her milking pail.

Looking in at the window, she was still more surprised to see in the gathering gloom a woman kneeling by her grandmother's chair, while Mrs. Pickett was shaking her head in a dazed kind of way, and saying:

"I don't understand it, Rachel. It seems to me I must be dreamin', an' that I'll wake up pretty soon an' find it ain't so!"

"But you ain't dreamin', Mahala," Dorothy heard Mrs. Day say, with an hysterical and tearful little laugh. "It's all true as gospel. Here I am, kneelin' right by you, an' there's the money right in your lap."

"An' you found it in that old oak chist that I thought had been empty for twenty years?"

"Yes, in that secret place in the lid. Don't you remember it?"

"I do, now that you speak of it, Rachel; but I'd forgotten all about it before. It's been so many years since the chist was used."

"Well, I remembered as soon as I saw the chest," replied Mrs. Day, "an' when I'd got home with the things I'd bought to-day, an' they'd been carried into the house, an' I found time to look them over. I put my finger right on the spot where the spring was in the chest lid. The little door dropped, an' a roll of bills came tumblin' down into the chest."

"I was so upset at first, Mahala, that I couldn't believe my senses; but when I'd pinched an' shook myself to prove that I was awake, I found it was true, an' that the cavity in the lid was full of bills—much more than enough to pay off the mortgage, an' almost enough to pay off the note."

"An' you brought it right over to me. Oh, Rachel!"

"Course I did, Mahala! Whatever my other feelin's are, hateful an' holdin' spite for years an' all that, I'm honest, Mahala, an' I wouldn't touch a pin I'd no right to."

"I know you wouldn't, Rachel, an' I didn't mean to hint that you would. But I'm so glad you brought the money yourself."

"I did think of sendin' it," said Mrs. Day; "but as I set thinkin' it all over, an' how glad you'd be to get it in the middle of your trouble, I begun to feel sorry for you, Mahala, an' the sorrier I got the more 'shamed I was of myself; an' the chest and everything together called back old times until I just laid my head on the chest an' had a good cry. I got up feelin' kinder an' tenderer toward you than I've felt for twenty years, though there's been times when I've wanted to make up bad enough, but I was afraid you wouldn't want to."

"I'd been so glad to, Rachel!"

For a long time the old ladies sat, forgetting and forgiving the past, and renewing a friendship not to be broken in the future.

With the money Grandfather Pickett had secreted so carefully in the old chest, and the proceeds of the sale, Mrs. Pickett easily made up enough to pay her husbands' indebtedness. Mrs. Day returned the articles she had bought at the sale, and Mrs. Pickett gradually regained possession of her most cherished household treasures.

"I never could bear the thought of havin' a vendoo made of my things," said Mrs. Pickett afterward, during one of her weekly visits to her friend Rachel, "but if I hadn't made a vendoo of 'em, it ain't at all likely the money'd ever been found in my day, an' you an' I never would have made up. So there are 'gains for all our losses, an' balms for all pain,' as the poetry book says."

"That's so, Mahala," said Mrs. Day.



"Mrs. Pickett sat in the big rocking chair on the little porch, and watched the progress of the sale through a blinding mist of tears."

things, an' I'll warrant she'll come an' bid on the very ones I hate to part with most."

"Perhaps she won't come to the sale at all, grandma," said Dorothy.

"Yes, she will!" replied Mrs. Pickett positively. "I know Rachel Day. She'll be here to glory over my trouble. It'll be twenty years this fall since she an' I spoke, an' she never came to your grandpa's funeral, an' I know from that that we shall never speak ag'in. I'd an idea she'd come then. Such good friends as we used to be! Girls together, an' so intimate that we always had our dresses an' bonnets made just alike. An' for the last twenty years we hain't spoke, though we've met hundreds of times. Dear me! dear me!"

Sweet of face and gentle of manner as Mrs. Pickett was, she was a woman of

triumph in the eyes of the new owner of the chest.

Mrs. Day bought several of the things offered, and Mrs. Pickett added to her sorrow a sting of resentment and injured pride with each purchase which Rachel Day made.

"She 'does it only to aggravate me," Mrs. Pickett thought; "but let her go on if it does her any good. I kin hold spite as long as anybody, but I wouldn't show it in such a way as this, if I was Rachel Day."

The vendue came to a close early in the afternoon, and the people departed, taking their new possessions with them. Mrs. Day was the last to go, and when she drove out of the farm yard her wagon was well laden with the things she had purchased.

Mrs. Pickett broke down entirely when

THE desk lid came down with a snap that seemed to shake every piece of bric-à-brac in the library. The girl leaned back in the great big desk chair and clasped the knobs on top of it with each hand. The clock was just striking five, and she had a little errand to do at the corner grocery, and, incidentally, could have a little chat with Laura.

"Oh," she said, "I don't see why I have to be tied down here to this humdrum life; other girls go to parties and dances while I am obliged to stay at home and look saintly, and all because father is a preacher. I just know he wouldn't say me nay if I asked permission to go to the dance to-night—if it wasn't for those finicky old foggies in his congregation."

Anna may or may not have been right about what her father would think of her going, but she later on came to her senses, and concluded that she "really didn't care to attend."

In all her girlhood she never had a lover. She had lots of kind and attentive friends of the male sex, but a lover never. In a semi-blind way it dawned on her that she had not had her feminine rights; her lips curled into a smile that was not a smile, but the closed eyes told no secrets.

"Maybe if I tried"—she ventured the thought, but her instinct revolted at this; she knew that her reserved dignity had kept people who liked her at a distance; she knew this, and, with a woman's contradictoriness, she was glad of it.

"Why not have a make-believe sweetheart?" Was it a wise or foolish inspiration? Down came the hands from above her head. "Why not?" Then, after a silence, "But what should he be like? Not like any one I know."

"He must be gentle"—this was certain. "He must have a mind broadened by study and travel; he must remember about little things; he must be full of fun; he must be good." And there in the gathering dusk of the evening she borrowed this trait and that and created her composite lover. In the realm of her heart she had spoken.

"Say, Laura," queried Anna, "who are those two young men across the street? Must be strangers! Gosh, they seem to be coming over to the store. Hope they come in."

Laura, who assisted in her father's store, upon looking out, recognized the young men as old friends. Yes, they were coming over.

"Why, how do you do, Miss Hoagland!" greeted John Fredericks.

"Does me good to see your own smiling self again," exclaimed Ned Hanlon, as he grasped Laura's hand in an unmistakable hearty handshake.

"Delighted, myself," replied Laura. "And do let me make you acquainted with Miss Brain."

Perched upon the counter, kicking her heels together, and with a cunning smile creeping over her pleasing features, Miss Brain made her initial bow to two young men, one of whom subsequently had much to do with framing her future life and assisting in the realization of her cherished dreams of not half an hour before, as she stretched and yawned in the big chair in her father's study.

Talk of the evening dance, for which the young men had come fourteen miles from the biggest town in the county, took up a pleasant ten minutes, during which time the fact was very noticeable that Ned Hanlon looked oftener and longer at Anna Brain perched upon the calico counter than he did at his old friend Miss Hoagland. There perhaps was nothing especially significant in that, but when he insisted that he would rather spend the evening at the parsonage than at the dance, he was put down for an artful jollier, and that he was, too, if the subject was to his liking.

When the two young men left they gave the girls assurance that they hoped to see both soon again.

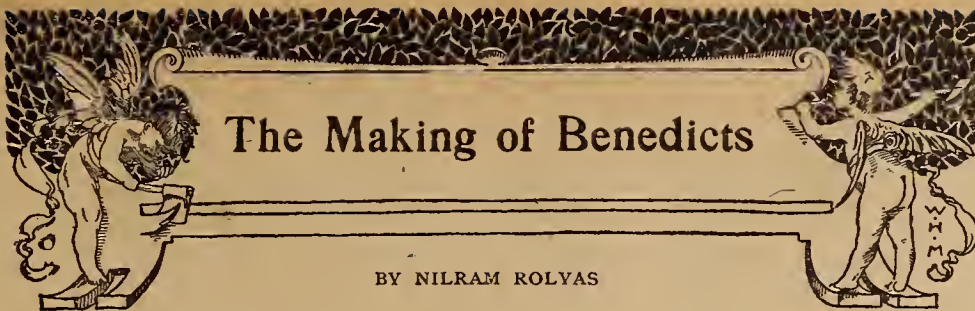
And they did, for Ned Hanlon, through the kindly arrangement of Mr. Edwards, whose guests they were to be that night, had secured Miss Hoagland as Ned's company, while a young lady just home from a Southern college was to receive the attention of Fredericks.

It was a holiday dance, a charming affair, but was without special incident.

John Fredericks was on a trip throughout the state in the interest of a journal he represented, when one evening, as he sauntered up to the hotel desk after a hard day's work, the clerk handed him a special-delivery letter bearing the card: "Edward Hanlon, Attorney-at-Law, etc." It was from his bosom friend Ned. Supper had to wait.

"DEAR JOHN:—

"I just had to unbosom myself to some one, so I decided to inflict myself upon you. As in my past life you have always cheered me, so in your absence now I still seem to feel the pulse beats of your own dear self. When you left, you remember I told you that I had been down to call on Miss Brain. Well, while you



The Making of Benedicts

BY NILRAM ROLYAS

pleaded with me to slow up a bit, to look before I leaped, to at least wait until you got back, yet the body was very weak when it came to the test. I have committed myself irrevocably—and I do hereby renounce all cynical ideas I may ever have entertained or expressed to you on the subject of matrimony. I don't know whether it will be a runaway match or a June affair. I seem to be walking around on air—I can hardly realize what I have done—but nevertheless it's glorious. Whatever the climax may be, you must be there—for surely you are my best man. Write me. Congratulate me! Yours, in clouds or sunshine, NED."

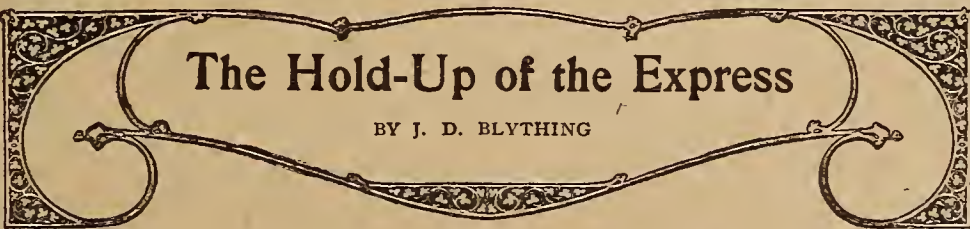
It was a Saturday morning in April that John Fredericks dropped into Ned Hanlon's law office to learn the more extended account of "Ned's undoing." There was no mistaking the warmth of their greeting, and a not very powerful microscope could have discovered a tear or two lurking in the corners of their eyes, ready for the word spoken or sign given to dislodge.

"Well, so you have gone and done it, and why?" piped Fredericks. "Don't you think you are a little speedy? Just broken with your old girl of some years' standing, and then go off in a hurry and jump farther and deeper into the tangles from which, but a short time ago, you were congratulating yourself as having dislodged yourself. You're a very funny boy, Ned. I guess I made a mistake when I

left the city, leaving you alone and without my guiding hand," continued Fredericks.

Ned received his old friend's little lecture with his usual good humor, but lawyer like, was prompt to take exceptions to certain parts "bearin' on an' ap'ertainin' to" his matrimonial conclusion.

"Yes, perhaps I was a little premature in my conclusions, perhaps it is not treating Miss Reading right to publicly declare my engagement to Miss Brain so soon after breaking with her, but dear old boy, you know I couldn't marry Reading. Our tastes were so different, our likes and dislikes so contrary; we couldn't get on together, haven't done anything but quarrel the past year, and for goodness sakes, how would it have been had we married? I want to get married, you know that, you've known it for a year. I found the girl—that's all there is to it. If I did congratulate myself as having recovered from the Reading case, I am not to be censured for simply furthering my ambitions. I am not inhuman, and I want to tell you that I thought a thundering sight more of Miss Reading when we broke off than ever before. She's a fine girl! However, it's not the old, but the new, you want to hear about—the little girl who kicked her heels together as she perched herself upon the counter in the country store and listened to the idle chatter of two chappies who didn't have anything else to do but talk, yes, talk, perhaps not saying much, but nevertheless



The Hold-Up of the Express

BY J. D. BLYTHING

THERE were four of us in the baggage car that night—Thomas, the baggage clerk, the assistant, the express company's agent, and myself. I really had no business there, but had been granted the privilege of a place in the car on the strength of my employee's pass and a nodding acquaintance with Thomas.

We were passing through that desolate, low-lying stretch of sand flats between St. Joe and South Bend. The country for miles about was under water, and our speed had been reduced, for the night was very black and the danger from washouts imminent. In this very district a few nights previous a train on another road had been held up and looted.

"If they was a gang of robbers layin' to hold up this train," said Thomas, "looks to me like they wouldn't want no better chance than right now."

"They'd make a good haul, too," assented the express agent. "Here's a whole train load of folks, most of 'em lookin' as though they had money, and besides they's a right hefty bunch of coin and valuables in that chest yonder," spitting in the direction of the company's safe. "What do you allow you'd do," addressing himself to Thomas, "if some feller'd shove a gun in your face and tell ye to throw up yer hands?"

"Well," said Thomas, drawing reflectively at his pipe, "I dunno. That's a proposition I've never been up against. I'm a peaceable sort of feller, generally speakin', and I've got a family to consider, too, but I wouldn't answer for what I might do in a case of that sort. I'm afraid I'd get riled and do somethin' desperit."

The express agent received this sentiment with a kind of gloomy admiration.

"As fer as I'm concerned," he said, "if some feller wanted what money I've got in charge real bad, and backed it up with a gun, I'd just say, 'There's the safe, pardner; and you'll find the key in my right-hand pants pocket.' I admire your nerve, old man, but—"

A volley of kicks and blows shook the door at the forward end of the car, and a hoarse voice scarcely audible above the noise of the train demanded admittance. We got to our feet as one man.

"What in Sam Hill was it?" demanded the express agent, in a whisper.

"Don't know," replied Thomas, in the same guarded tone.

A second fusillade began on the door.

This time there could be no doubt; the intentions of the person outside were not pacific.

"It's a hold-up," said the express agent, still in a stage whisper. "You'd better open the door, Thomas, before the cuss begins shootin' through."

"Open it yourself," said Thomas. "I reckon half this car is yourn, ain't it?"



And, anyway, it's not the baggage he wants—it's that tarnal safe."

Again the door resounded to a determined application of foot and fist, and we could hear an authoritative voice shouting, "Open up!"

The express agent drew a revolver from his pocket, and holding the weapon carefully behind him, dragged himself unwillingly to the door. Thomas flattened his form against the side of the car. His assistant was keeping in line with the tall stove. For my own part, having no caste to lose, I selected a saratoga trunk of comfortable proportions and surveyed the field from its shelter.

Cautiously the express agent undid the fastenings of the door and opened it to the space of a foot. Then the grimy, oil-smeared face of the fireman appeared in the opening.

"I say," said he, with a conciliatory grin, "can any of you gents supply me with a chew of tobacco? I'm clean out."

they talked. A call, a second, a full round moon, a kiss, chaste and rather risky; a second—confessedly not so chaste, the outpourings of a hungry heart—the proposal, a loving but doubting response, and there you are. I'm the main actor in the romance, and you must applaud. You perhaps do not remember her as well as I want you to. You shall have an opportunity, however, Wednesday evening, as I have arranged to drive down."

"I'm very, very glad to see you again, Mr. Fredericks. This is my sister, Miss Ada," greeted Anna Brain. "I sort of feel that I am on exhibition to-night," continued Miss Anna, "as Ned said he was bringing you down to have you look me over, and that a great deal depended upon the impression I made upon you. This is, honestly, the best gown I could scrape together, and if you will permit me to sort of hang back in the shadows, I will do my best to give you a favorable impression of myself—for I know this man Ned will anxiously await your important decree as to my future relations with him."

Fredericks made himself feel as comfortable as possible after this daring broadside from the little black-haired beauty who had turned Ned's shadow into sunshine. Guess she was all that Ned claimed for her. Fredericks, however, seemed to think the sister, Ada, was the prettier of the two. There was no argument, however, on the relative merits of the two girls' beauty. The pleasant evening was all lived over again as Ned and John drove home, fourteen miles, in a downpour of rain and through mud deep to the hubs almost. Water and dry biscuits at three in the morning is pretty tough lunching, but that was even an improvement on what they got earlier in the night, for the lunch Anna and Ada had so beautifully prepared was entirely forgotten through the succeeding interesting events of the evening.

The twenty-fifth of June and but one more sunrise before their wedding day! The day broke beautifully, a trifle warm, but the air was clear, thanks to the rain of the night previous.

"All aboard for ferns," shouted Alice, the little cousin from Virginia, who was to officiate as one of the attending maids on the morrow. And Ada, her best fellow, Alice, Miss Essex, Parker Brain and Fredericks climbed into the large wagon and were soon whirling through woodland and dell to the fern patch.

Say, the spirit of the occasion of the morrow seemed to enter into the very beings of the lesser principals, the bridal attendants, and it was very remarkable, that once the ferns were gathered, how the party did sort of break up into couples. There was lots of love unfolded in that little ravine that June morning.

That evening the bridal party was entertained at a dinner.

The wedding day was taken up with the usual church decorations. Fredericks was a busy man. Ned took things very easy. He bothered himself about no little details whatever. His best man had him on easy street, thanks to Fredericks' experience in the business, for this was his sixth wedding at which to officiate.

"Make way for the best man, for he wants to kiss the bride," shouted Fredericks, as he entered the east parlor, where the smiling bride and happy groom stood waiting for the good words of cheer. "Me, too," echoed each of the groomsmen. About that time the mothers of the bride and groom slowly entered the room. Fredericks looked for trouble, as their long, seemingly painful faces expressed. Fredericks grasped the situation in an instant. He side-stepped to the piano, gave the cue to the bridal party, laughingly shouted, "There are to be no tears here to-night," and struck up the song "For He's a Jolly Good Fellow," in which all seemed to join and imbibe the spirit of the song. The two mothers' eyes filled with tears, nigh to overflowing, but the merry echo of "For He's a Jolly Good Fellow" buoyed their spirits, and when the storm had about blown over, the dear old grandmother, who had joyously taken in the little side play to the occasion, walked over to the piano, and throwing her arms about Fredericks' neck, kissed him twice on the cheek, exclaiming: "It's a good thing I'm not young and one of those bridesmaids, or you'd be following in Ned's footsteps if I'd have my say."

But the bridesmaids evidently didn't look through the same glasses as dear old grandmother. A remarkable outcome of the affair, however, was the engagement of the maid of honor, Ada, sister of the bride, and that of the young Southern beauty to two of the ushers. The latter, however, is a semi-secret, but the case evidently is developing rapidly, for in writing to a friend in the North she tells how she is carefully clipping all the "Hints to Housekeepers" from the various journals.

Fredericks hasn't yet become imbued with the spirit that makes men benedicts, but Ned says that when he does get it he'll get it awful bad.

A Wise Caution

BY HILDA RICHMOND

THE neighborhood gossip had just finished a long story that tore to tatters the reputation of several people in the community, and she wound up by assuming a virtuous air and saying, "But don't mention it to any one." Probably she was cautioning her hearers against repeating it, so she would have more opportunities, but however that may be, she did say one good thing in the course of the afternoon. Even if scandalous or sensational stories are true, it is better never to mention them unless absolutely necessary. Where some innocent person will be injured or imposed upon by impure or dishonest people it is the duty of men and women everywhere to expose fraud, but the mere telling of gossip for the sake of saying something is being rapidly discouraged in progressive country neighborhoods everywhere.

The chief reason for preserving a discreet silence is that tattling stirs up strife. One person with a desire to tell tales can keep school, grange, church and the whole social life of a neighborhood in a ferment. How much better would it be if every one failed to mention the unkind stories again. If they are untrue,

the proper officials, and have her removed for the good of the school. Don't be a coward.

Perhaps more than anything else, aside from home affairs, the knowledge we get accidentally should be kept sacred. Perhaps you accidentally overheard something not meant for your ears, or learned certain things while visiting your neighbors that they do not intend you to know. The only thing to do in those cases is never to mention the facts to any one. There are many skeletons in closets, and if their possessors have been successful in keeping the hideous things out of sight, never open the door for their escape. Many a man who is trying to live down an unhappy past finds that again and again somebody digs up the story of misdeeds, and he suffers all over again the sting of the old shame. Family difficulties hidden for years are sometimes discovered by chance callers or in unexpected ways, but wise people keep their lips closed forever if they make unpleasant discoveries. For all doubtful and unkind stories the wise caution of the old lady, "Don't mention it," is a safe rule.

Custards

APPLE CUSTARD—Take six apples, one cupful of sugar, three eggs, one and one half pints of milk and half a nutmeg. Peel and slice the apples; put into a stew kettle, and boil until done; then mash fine;

put in half the sugar; beat the eggs in another dish until light, without separating. Put in the remainder of the sugar and the milk, and stir it all well; then add the apples, and stir again; pour into pastry-lined tins, and place in a hot oven to bake.

PEACH CUSTARD—Peel and quarter mellow peaches; lay them in a deep glass fruit dish, sprinkle generously with granulated sugar, and pour over them a thin tapioca custard. When this is set, spread over the top the whites of two eggs beaten to a stiff froth and slightly sweetened. Set in the ice box until wanted.

FOR THE CUSTARD—Soak one half cupful of tapioca for twenty-four hours. Put one pint of milk on the stove in a granite pan. Stir in the tapioca—when it boils keep it well stirred—add the beaten yolks of two eggs, one half cupful of sugar and a few drops of vanilla. Pour this over the peaches.

SNOW CUSTARD—Half a package of gelatin, three eggs, two cupfuls of sugar, and the juice of one lemon. Soak the gelatin one hour in one cupful of cold water, add one pint of boiling water, and stir until thoroughly dissolved, then add two thirds of the sugar and the lemon juice; beat the whites of the eggs to a stiff froth, and when the gelatin is quite cold whip it into the whites, a spoonful at a time, from half an hour to an hour. Whip steadily and evenly, and when all

is stiff pour in a mold, previously wet with cold water, and set in a cold place. In four or five hours turn into a glass dish. Make a custard of one and one half pints of milk, yolks of eggs, remainder of sugar, and flavor with vanilla. When the snowball is turned out of the mold, pour the custard around the base.

Preparing the Carrot

CARROTS WITH CELERY—Scrape the carrots and cut them into little balls with a vegetable cutter. Cook them in a slightly salted water until tender. Have ready an equal quantity of cooked celery cut in small pieces. Drain the vegetables as dry as possible, then mix them. Add one cupful of hot milk and one tablespoonful each of butter and flour mixed smoothly together. Season lightly with salt, pepper and a very little nutmeg. Let boil for five minutes, stirring constantly, then serve. This dish should be served frequently where there are nervous, irritable persons, both vegetables being said to be excellent for such troubles.

CARROTS WITH GREEN PEAS—Scrape the carrots, and cut them into little balls. Add an equal quantity of green peas, and cook them in a little slightly salted water until tender. Drain, add a lump of butter, a few tablespoonfuls of cream or rich milk, salt and pepper to taste, and a light dusting of flour. Stir, and simmer a few minutes longer, then serve in little bread cases which have been brushed with soft butter and delicately browned in the oven. This makes a delightful combination and a very pretty dish.

CARROTS WITH BEETS—Put one cupful of diced boiled carrots and two cupfuls of diced boiled beets into a stew pan with two tablespoonfuls each of vinegar and butter. Season with salt and pepper, let get very hot, and serve.

CREAMED CARROTS—Boil the carrots until tender, then skin them, and cut into thin slices. Put one cupful of cream and one tablespoonful of butter into a sauce pan, and when hot add the carrots. Let them simmer for a few minutes, season delicately, and serve. The cream may be slightly thickened with one teaspoonful of corn starch before adding the carrots.

YOUNG CARROTS STEWED—Scrape the carrots, let them lie in cold water for a short time, then shred them into two-inch strips. Cover with good beef or other meat broth, season delicately with salt, pepper, a little sweet marjoram and parsley, and stew together until tender. When done, turn the carrots into a heated dish. Measure the broth, and to each cupful add one level tablespoonful each of flour and butter mixed to a smooth paste. Stir, and cook over the fire until the gravy is smooth and thick, then pour it at once over the carrots, and serve while hot.

Egg Jumbles

BREAK four fresh eggs in a basin, and whisk them lightly, then add an ounce of finely chopped cooked ham or tongue and a good pinch of mixed savory herbs, also one teaspoonful of finely chopped parsley; then beat up the mixture and season with very little salt and pepper. Have ready three or four slices of toasted bread; cut them to size and butter them. Melt three fourths of an ounce of butter in a sauce pan, put in the egg mixture, and stir it over the fire until just setting; then spread it on the prepared toast, and serve hot.

Little Meat Pies

MAKE pie crust and mold in gem tins. Make meat stew chopped fine and seasoned well. Fill the molds and bake moderately fast for twenty minutes. Bits of steak, roasts or ham can be used in this way.

Unfermented Fruit Juice

THERE is a great deal of fruit that goes to waste on almost every farm that with a little labor could be put up in some form for general use at a season when fresh fruit is not available. In ad-



PIGEONS ON RICE—Cook the birds in highly seasoned stock until tender; drain, and keep warm until one cupful of rice is cooked tender in the same stock; serve birds on the rice; garnish with pepper grass.



DUCHESSE PEAS—Mash six boiled potatoes, add salt and pepper to taste, two tablespoonfuls of melted butter, the yolks of four eggs, four teaspoonfuls of grated mild cheese, two tablespoonfuls of cream; mold in oblong wells, brush with egg, bake a delicate brown; fill cavities with hot, seasoned French peas. Serve at once.

the sooner they are forgotten, the better; and if true, it does no good to tell them. Sad to relate, many neighborhoods are struggling along without any of the social gatherings that ought to sweeten and strengthen life simply because some man or woman keeps the grange or Sunday school in a turmoil by tattling.

Above all other things, family affairs should always be kept a secret. A woman who was always complaining about her mother-in-law in a little sewing circle received but scant sympathy. Every word she said about the old lady was true, and her friends knew just how hard she was to get along with, but when she had gone home one of the ladies said, "I always thought Mrs. P. was a lady until to-day." Just one sentence, but it expressed the sentiment of the circle. Nothing more was said, but Mrs. P. was forever lowered in the estimation of her neighbors. She had gone into the home of her husband's mother knowing exactly what she would have to put up with, so a dignified silence in public would have been much better.

Teachers of rural schools are often greatly handicapped by the things children and grown people tell about them. For every woman who goes quietly to the teacher to inquire about the trouble her son or daughter has had at school there are nine hundred and ninety-nine who begin to tell among the neighbors about the shortcomings of the teacher. If there is a boy or girl in the whole United States who will go home from school and give a correct account of the trouble in which he or she was the chief actor, a medal should be presented to the youngster at once. Children are bound to put up their side of the story, or if they have no side, manufacture one. It is human nature to do it, and no one should expect anything else. One wise mother always sympathized with the children in their scrapes, and immediately took them back to the schoolhouse to face the teacher and get her version of the affair. The mountains soon dwindled into mole hills, and the boys and girls were not so eager to get into trouble after two or three trips to the teacher. Perhaps the teacher is guilty of gross neglect or any of the sins people say she is, but telling the neighbors about it will not help the case. If she is incompetent, prove it to

put in half the sugar; beat the eggs in another dish until light, without separating. Put in the remainder of the sugar and the milk, and stir it all well; then add the apples, and stir again; pour into pastry-lined tins, and place in a hot oven to bake.

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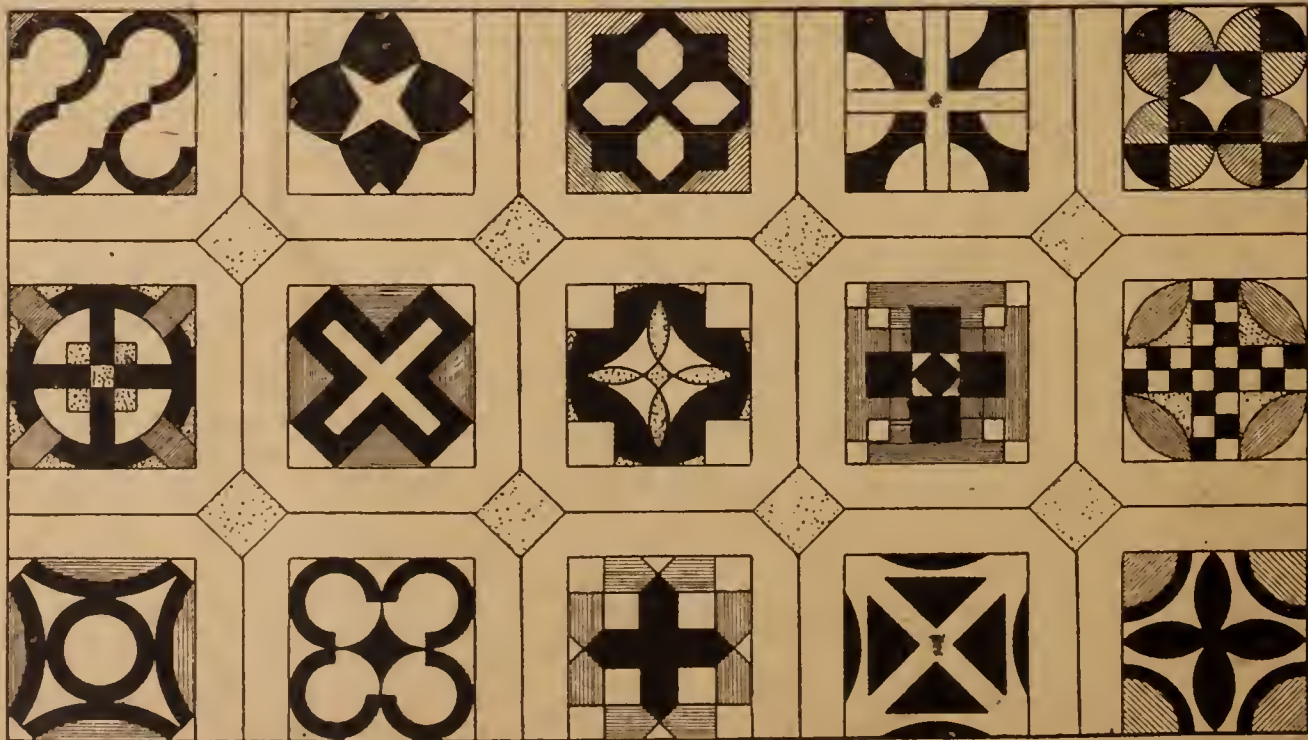
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dition to the usual store of canned fruit, preserves, jellies, etc., that is common in every farm home, the juice from a considerable quantity of fruit could be easily kept for winter use by the simple process of preserving in jars or bottles by means of heat much in the same way as fruit is preserved. Unfermented fruit juice should have a very extensive use in the household. It is much used in sickness, and when properly prepared is a very agreeable and palatable beverage. The juice from the grape is the product most often put up in an unfermented condition, but other fruit, as the apple, peach, and berries, all yield large quantities of juice that may be put up in the same way as that from the grape.

APPLE JUICE—Select sound, well-ripened fruit. The juice from green apples is dark-colored and will not clear up, while that from ripe fruit will give a bright, clear liquid. Put the juice into an enamel or glass vessel, put this into a larger vessel of water, to protect it from the flame, and heat gradually to the required temperature, 185 degrees, for fifteen minutes. Remove all of the skum that forms during heating. After heating, set the vessel aside closely covered for twenty-four hours. When ready to begin work the next day, first sterilize by boiling the bottles or jars to be used, then pour off the clear fruit juice into these bottles or jars, and heat the second time to about 175 degrees Fahrenheit for thirty or forty minutes. For this second heating place a board in the bottom of a wash boiler, and after putting the jars on this, fill with water to within an inch of the top, and heat gradually. Immediately after heating put on rubbers and caps for jars, or press in the stoppers, and seal. In addition to screwing the top of fruit jars on tight we have sealed them with paraffin or sealing wax. Jars may be easily sealed by inverting them and running paraffin under the edges of the top while the jar is hot. Cover the stoppers of bottles with either paraffin or sealing wax. A considerable quantity of cider was run through a tubular cream separator two or three times, and practically all sediment was removed. This juice, after being heated twice, was a clear, bright liquid, and the bottles after standing almost a year are practically free



SOME NEW AND ARTISTIC DESIGNS FOR QUILT BLOCKS

Drawn by Arthur J. Ransom.

from sediment. Grape juice might be run through the separator in the same way and with good results.

GRAPE JUICE—Use only clean, well-ripened fruit, and by selecting certain varieties, almost any desired flavor may be obtained. Any device, as a cider press, may be used for crushing the fruit, or they may be crushed by hand. If a light-colored juice is desired, place the crushed grapes in a stout bag and press out the juice or let it drip through. After the juice is obtained, treat exactly as for the apple juice. If a red juice is desired, heat the crushed grapes and juice to 175 degrees Fahrenheit, then strain out the juice, and heat again for a few minutes to 180 degrees Fahrenheit; allow it to stand for twenty-four hours, and treat as for the apple juice.

If a thermometer is not at hand, some care will have to be taken in heating the juice, as it should never be allowed to come to a boil.—From Press Bulletin No. 147, Oklahoma Agricultural Experiment Station, Stillwater, Oklahoma.

Crab-Apple Jelly

CRAB-APPLE jelly is delicious and is probably the simplest jelly to make. Wipe the crab apples, halve them, and put in the preserving kettle with enough water to barely cover them. When boiled to a pulp, remove, and strain through a

jelly bag without squeezing, or the jelly will be cloudy. Measure the juice as you put it into the kettle, and after it has started to boil add three fourths of a pint of sugar (previously heated in the oven) to every pint of juice. When it has boiled about five minutes test in a saucer. If it sets it is done.

Pointers That Are Good

A NICE way to utilize the bread scraps of fruit cake is to grind them up in the meat chopper and stir into gingerbread batter. Baked in a loaf and served with a rich wine sauce it makes a delicious dessert for a cold day.

Stockings will last three times as long if the heels and toes are lined before being worn. Cut strong muslin on the bias, just enough larger to allow for a very narrow lapped seam across the toe. See that it fits perfectly, then cross stitch to the stocking with thread of the same color. Leave the thread a trifle loose, to allow for a little stretching.

Treat heels in a similar manner, making the muslin the size of the heel at the bottom of the foot, and taper to a point about four inches high in the back.

When cooking, do not leave a spoon in anything that you want to boil quickly. A spoon conducts the heat away from the liquid.



How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

A Country Girl's Advantages

[CONTINUED FROM LAST ISSUE]

It is a far cry from horseradish to pillows, but pillows were my next discovery. Along the river where we go every year to gather wild grapes and chokecherries are any amount of wild hop vines, and mother always picks a sack each year to have for poultices in case of sickness. I suppose every one knows how good they are applied hot for drawing out inflammation in any disease of the chest or bowels. But a teacher who boarded with us one year and saw mother's big hop sack begged for enough to make her a pillow, saying her physician had told her there was nothing so good for sleeplessness, with which she was troubled, as to sleep on a hop pillow, but that she was unable to get them in town, except in the small compressed packages at the drug store, which would make enough for a pillow cost a fabulous price.

Here was a new idea for me—I was growing to be on the lookout for ideas—and I asked her if she didn't suppose hop pillows would sell well. She replied quite enthusiastically that she was sure they would—that she would tell the doctors and others who might be interested that by dropping a card to me I would supply any one with a hop pillow who wished it. Needless to say, when the rest of the folks went graping or chokecherrying after that I went "hopping." For cases I bought thin, yard-wide bleached muslin at five cents a yard, and as each yard makes two cases each eighteen inches square, the cost is but two and one half cents a pillow.

But hop pillows were only the beginning of my pillow enterprise. In a swamp not far away, as well as along the bayous of the river, the cattails grow in abundance—the finest material in the world for making down pillows, and just as work with the flowers is about over for the fall, the cattail heads are ripe and ready to gather. When dry a rub between the hands is all that is necessary to fluff them up ready for the pillows, and being so solid in the head, a few of them make a surprising amount of down. These I make in varying sizes, selling them according to size, at nearly the same rate that down and feather pillows sell at, many people preferring them for use on the beds, as well as for sofa pillows, because they are so much more sanitary, having no animal matter about them.

But do not think my pillow making ends with these. There are the clover pillows, for which I gather the blossoms from father's field, dividing the profits with him for the privilege, and the milkweed pillows, which differ from the cattail pillows only in being so much softer and downier—lighter, in fact, than any other substance. My drives about the country in the fall provide me with enough of the pods as they ripen to make a half-dozen pillows each year, and "every little helps."

But most remunerative of all, because in such universal demand, are the balsam pillows. Whenever I can spare an entire

day off I put up a lunch, provide myself with sacks and a pair of big shears, and drive to a patch of evergreen timber—pines, spruce and balsam. Cutting lengthwise of the branches, the needles falling onto a sheet spread below, enough needles for a pillow can be cut in a remarkably short time, and I go home at night, after a most enjoyable day in the woods, laden with enough aromatic fragrance to make a very substantial addition to my bank account. This any one can realize who knows that the dealers sell these balsam pillows at two dollars and fifty cents each, while I am nothing out except my time and the two and one half cents for the muslin case in which I sell them.

Not every girl lives in an evergreen timber region, and consequently not all can get the material for making balsam pillows, but I often wonder why it is that the Christmas trees are so universally thrown away when they have served as such. Even the tiniest tree would make one pillow, and from the tens of thousands used every Christmas at least twice as many delightful pillows could be made if people would only think. But hops and clover any country girl can raise, and cat-tails and milkweeds grow wild almost everywhere—it's just a question of putting to use what Nature or a very little exertion will provide.

But I am not yet to the end of my story of resources, for mine is an all-the-year-round-dividend-paying proposition.

After the busy horseradish-grinding and flower-planting days of spring, the bouquets of summer and fall, the pillow industry not only of autumn, but of nearly all the year, there are yet several months of what might be comparative idleness during the winter, but of what really is as busy a time as any other season, for then it is that I get in my best licks at Old King Corn.

Have you ever known any one yet who didn't love the old-fashioned lye hominy? I never have—and of course I hope I never shall. Neither the canned hulled corn nor the dry cracked hominy can be mentioned in the same day with it for deliciousness, yet while every one likes it, there are very few who will take the trouble to make it—and therein lies my opportunity. I make it in "wholesale" quantities, but I do not use ashes as our grandmothers did, but use baking soda instead for removing the hulls—a level tablespoonful to each quart of uncooked corn. It produces the same effect and taste as the ashes and is immeasurably easier. When the hulls slip off it is washed in several waters and then cooked again until so tender it fairly melts in the mouth. This I deliver but once a week, Saturdays, for I make it only in cold weather, when it will keep almost indefinitely, and is as good when a week old as when just made. The only trouble I have is in not being able to handle as much as I could dispose of. The hotels and restaurants take it, the grocers take several gallons apiece, the customers to whom mother sells butter and eggs all want to be remembered, and I supply



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their neighbors along the same streets as long as my supply holds out.

Now I haven't told you all my ways of earning money in my country home—I'm afraid if I did there would be too great an exodus among the girl readers of the towns—but besides all the work I do for my own gain I still have ample time for my share of the home duties. In fact, mother says I help her more than nine tenths of the girls do who do not earn a penny for themselves. And father—well, he thinks I will be an old maid.

Perhaps others share his opinion, if they would be as frank in expressing it. But however that may be, I know I will never have to marry a man just for the sake of a home and support, as so many girls do. Nor will I be likely to take up with a man who cannot provide me with at least as good a home and income as I can make for myself. And I just want to say in parting, girls, that if all of you would make up your minds to be independent, to make the most of every little opportunity that presented itself to that end, there would not be one tenth the unhappy marriages there are when the question of support takes precedence over congeniality and real love.

KITTE TURNER, Colorado.

From a Small Garden

I HAVE made considerable money on a small patch of ground near the kitchen door by raising tomatoes and green beans for market. I have the garden plowed in the fall, and fertilized, and again plowed in the spring, rather late. I do not favor early planting, because vegetables grow slowly as long as the nights are cool, and weeds grow fast.

The tomatoes I plant thinly in window boxes, usually about the first day of March, and then I carry them out on all nice days. I like to set them out the same day the ground is plowed, two and one half feet in the row, the rows three feet apart. I cover the plants with old cans, and let them stay covered a week or even ten days, watering meanwhile. I continue to water unless the rain is abundant.

Tomatoes require more water than any other vegetable. As fast as the lower branches appear, pinch them off. This will check the growth of the vine and cause the plant to throw out fruiting spurs. Hoe every week, until the vines get too thick.

Beans are less trouble, as you need only to select a stringless variety that has long pods. Plant and keep free from weeds.

The work will be a real pleasure to the average woman if done in the cool of the day. PEARL CHENOWETH, Kansas.

Growing Plants

FORTUNATELY for me, we settled on a spot of fertile soil, suitable for all common house plants. Then I have a small hothouse, as most any one can have, so I find an easy way to have some small change of my own is to grow a limited number of plants for sale. I grow jasmines, geraniums, and in season hyacinths. A one-year-old jasmine is worth twenty-five cents, two-year fifty cents, pot included. In this way I have a local flower trade which is a pleasure as well as a profit.

Mrs. H. L. HOLT, North Carolina.

Raising Ferrets

I HAVE for several years kept eight or ten female ferrets, and they will average six or seven young apiece in the spring, also about that many in the fall. I do all the feeding and caring for these. In the fall, when the second litter becomes large enough, I sell all of my young, generally about ninety-five ferrets, and they bring me, clear of expense, \$1.35 apiece. ESTELLA SPENCER, Ohio.

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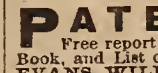
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New Designs for Mid-Summer Frocks

By Grace Margaret Gould

Do you want to know all about the mid-summer fashions? If so, just study this page. These designs offer good suggestions for early fall, too.

Here are the newest skirts—skirts suitable for such materials as pongee, foulard, silk voile, marquisette, batiste and challie. You will also find all sorts of pretty and effective trimming ideas, and waists which may be worn separately or with the skirts here pictured.

Over-b blouse effects continue to be fashionable. The model shown in illustration No. 969, though a simple little waist, is extremely good style. It is made with tucks on the shoulders, back and front, stitched to yoke depth, and shows a very lovely hand-embroidered design as the trimming. The guimpe may be of all-over lace or any appropriate material one wishes. The neck of the over blouse is outlined with lace insertion, and the same lace insertion trims the graceful skirt, which is made with a panel front and circular sides. The side portions are billowy with ruffles.

The bretelle skirt with its group of tucks at the bottom is a very desirable skirt to add to one's wardrobe. The skirt is cut in five gores, and is slightly full at the waist, fastening in the back. The pointed tabs, back and front, give a novelty touch to the bretelles, which are broad on the shoulder and taper toward the waistline in a becoming fashion. A skirt of this sort may be worn with any silk or lingerie waist, one, perhaps, which is partly worn and would not be permissible to wear without the bretelles. The guimpe waist, however, shown in pattern No. 971, is a good model for silk, net or all-over lace. It fastens at the back, and has a few gathers at the waist in front, which give a slight blouse. The sleeve is an elbow puff finished with a deep frill.

Women who are partial to yoke waists will find an exceptionally original model



No. 969—Tucked Over Blouse
With Guimpe

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, two yards of twenty-two-inch material, or one and one half yards of thirty-six-inch material, with three yards of all-over lace for the guimpe, and two yards of lace for frills.

No. 970—Three-Piece Ruffled Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 42 inches in front. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or nine yards of thirty-six-inch material.



No. 971 No. 972

No. 973 No. 974

No. 975 No. 976

in design No. 973, where the waist is made with a yoke finished with tabs. The skirt, which completes the costume, shows the same tab idea introduced in the narrow front panel, which has the tabs buttoning over on the skirted portion.

A lingerie gown with a dainty touch of color introduced is shown in designs No. 975 and 976. Here the filmy shirt waist has a shallow yoke in color, and is trimmed with triangles of the same color all outlined with a white embroidered design. The seven-gored skirt is made with tucked insets outlined with a band of the colored material. Each inset has five tucks.

How to Order Patterns

We will furnish a pattern for every design illustrated on this page. The price of each pattern is ten cents. In ordering, be sure to mention the number of the pattern desired and the size required. Send money to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Write for our new catalogue; sent free on request.

No. 971—Guimpe Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of twenty-two-inch material, or two and one fourth yards of thirty-six-inch material.

No. 972—Tucked Skirt With Bretelles

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 42 inches all around. Quantity of material required for medium size, or 26 inch waist, ten and one half yards of twenty-two-inch material, or eight and one half yards of thirty-six-inch material.

No. 973—Waist With Tab Yoke

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material.

No. 974—Kilted Skirt With Panel Front

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 42 inches all around. Quantity of material required for medium size, or 26 inch waist, twelve yards of twenty-two-inch material, or ten yards of thirty-six-inch material.

No. 975—Shirt Waist With Shallow Yoke

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming.

No. 976—Skirt With Tucked Insets

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 41 inches all around. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or nine yards of thirty-six-inch material.

Easy-to-Make Clothes for Every-Day Wear

By Grace Margaret Gould

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No. 765—Plastron Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-two-inch material, or three and one half yards of thirty-inch material, with three eighths of a yard of tucking for chemisette.

No. 766—Circular Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, nine yards of twenty-two-inch material, or seven yards of thirty-inch material.

EVERY woman knows that no matter how charming the fabric or smart the design of the costume she is planning, it is very apt to be a failure if its color is unbecoming. That's why it is interesting to know right now the new fashions in colors. It is blue that will be high in favor this fall and winter, and that certainly is good news, because blue is pretty apt to be becoming to nearly everybody. Navy and royal blue are both looked upon as fashion leaders. Copenhagen blue and Nattier blue, or old blue, are both high-style shades. The Copenhagen blue is the old blue found in old delft platters, and the Nattier shade is the color we so often see in old tapestries—the shade which somewhat resembles a bachelor button, only much softer.

Many brown shades will also be used—russet, Havana and the leather shades. Browns showing a coppery tinge will be modish, as well as deep mahogany tones. In greens we have the preference given to forest green, which is a beautiful rich leaf tint, not so yellow as olive, and is much more becoming. It will be seen much in the plain fabrics. The bronze greens will also be worn. A beautiful deep American Beauty rose shade will be stamped the mode, and many Bordeaux reds will be favored. Two grays will be especially fashionable—the gray we see in silver, and a darker mouse shade. The tendency, however, is toward dark shades.



No. 722—Tucked Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-inch material.

No. 723—Skirt With Tucked Panels

Pattern cut for 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eight and one half yards of twenty-two-inch material, or six and one half yards of thirty-inch material.

Fabrics show indeterminate effects and beautiful minglings of soft, dull colors. Black will be conspicuous in both fabrics and trimmings.

* * *

Lace as a trimming is going back to its right place. Instead of decorating street costumes, as it so frequently did in the spring, it will be used almost exclusively as a garniture for house and evening gowns.

* * *

A very up-to-date idea to carry out in making up costume Nos. 765 and 766 is to have the shirt waist in the same color as the most predominating shade in the plaid skirt. It is best to select some durable wash material, such as mercerized madras or cotton cheviot, both of which come in not only all the new solid colors, but in plaids, stripes and checks. A light-weight plaid woolen fabric may be used for the skirt if preferred. The waist buttons in the back, and the chemisette is adjustable. The circular skirt is made with a center front seam, and is fitted with darts around the waist.

* * *

The Tucked Tennis Shirt Waist and Five-Gored Gathered Skirt have been especially designed for the girl who goes in for outdoor sports. The shirt waist is made with a soft turn-down collar which is attached to the waist. The sleeves are short, and are finished with an armband, which is slashed at the inside seam and turned back. The model is tucked in groups. The front of the waist is cut



No. 792—Misses' Pinafore Waist

Pattern cut for 14, 16 and 18 year sizes. Quantity of material required for medium size, or 16 years, two and three fourths yards of twenty-two-inch material, or one and seven eighths yards of thirty-six-inch material, with two and three fourths yards of thirty-six-inch material for the shirt waist.

No. 793—Misses' Plaited Skirt—Five Gores

Pattern cut for 14, 16 and 18 year sizes. Quantity of material required for medium size, or 16 years, seven yards of twenty-two-inch material, or five yards of thirty-six-inch material.

away, and a full tucked portion inserted. The waist closes in front with buttons and buttonholes through an applied box plait.

The skirt is cut short enough to be comfortable for all outdoor sports. It is made in five gores and trimmed with applied bands. The closing is at the back under inverted plaits. Canvas, brillant, mohair or a light-weight serge may be used for the skirt, if one doesn't wish a wash material. But the shirt waist should be of piqué, percale, linen or madras, or in fact any of the heavier cotton materials. Lawn or handkerchief linen should not be used for a shirt waist for outdoor sports.

* * *

The pinafore waist is to be one of the favorite fall fashions, as it was last fall, and many and varied are the designs in which it will be shown. The model here illustrated is made with an extremely pretty cap sleeve and a becoming neck effect. The waist is cut out sufficiently at the neck, back and front, so that it may be slipped over the head.

* * *

In the fashioning of gowns many of the newest and most beautiful effects will be obtained by combining textures rather than colors. A brown broadcloth costume, for example, will be combined with brown velvet and brown silk, rather than having the velvet and silk in a contrasting color. The new effect will be reflected in the lights and shadows of the single tone as it is expressed by the different textures.



No. 768—Tucked Tennis Shirt Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material.

No. 769—Five-Gored Gathered Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, nine yards of twenty-two-inch material, or seven yards of thirty-six-inch material.

The fashionable woman this autumn will need more clothes than usual if she aims to keep up with the pace that the arbiters of fashion have set for her. More than ever before it is the gown specially suited to the occasion that is in demand. The new frocks seem purposely not adaptable for different sorts of wear.

* * *

With the mannish tailor-made suit, which is to be popular this fall and winter, the preference will be given to the full-length coat sleeve finished with a turn-back cuff of velvet or cloth. The sleeves will not be set high on the new tailored garments, yet the shoulder effect will be broad. What is known among the garment manufacturers as the seven-eighths sleeve will also be worn with the tailor-made suit. This sleeve ends just above the wrist, and it is really a short full-length sleeve. Considering sleeves for all garments, it is an interesting fact to note that the elbow sleeve is giving place to the three-quarter-length sleeve. This latter sleeve comes well below the elbow and is a particularly graceful length, much more so, in fact, than the seven-eighths sleeve, which to the uninitiated has a trifle the look of a long sleeve made by mistake too short. The three-quarter sleeve will be seen in a number of the three-piece suits which will be so fashionable this fall and winter. It is a trifle fuller than the seven-eighths



No. 745—Double-Breasted Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-inch material.

No. 746—Gored Skirt With Gathered Flounce
Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt in front, 42 inches. Quantity of material required for medium size, or 26 inch waist, ten yards of twenty-two-inch material, or eight yards of thirty-inch material.



No. 726—Shirt Waist With Yoke

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material.

sleeve, and is often elaborated with shirrs and tucks put in crosswise. Paris is showing occasionally a sleeve which was fashionable years ago. This is the "mitten" sleeve, which is not only full length, but longer, ending in a point which comes to the knuckles.

Fireplace of Gold Quartz

PROBABLY the only fireplace made of gold quartz in the world is that found in the home of Mrs. Sarah B. Nan Ness, of East Lexington, Massachusetts. The late Joseph Van Ness, a well-known publisher, and the husband of Mrs. Van Ness, was an occasional visitor at a little New Hampshire town where there was a gold mine. He conceived the idea of making a fireplace from gold quartz in the new house which he was about to construct, and had the quartz shipped to East Lexington. The fireplace reaches to the ceiling, and is a massive affair. It was built by an Italian artist of great skill. The chimney is built of field stones and is on the outside of the house.

Strict With Their Daughters

NEW GUINEA parents have in operation a system that would not meet the approval of the average American girl. Every night they send their daughters to bed in a little house at the top of a tree, and when the girls have gone up, the ladder is removed, so that there is no coming down until the parents allow it. Elopements under these circumstances must be difficult, and parents no doubt sleep the sounder for knowing that their girls are unable to take their walks abroad until their elders see fit for them to do so.

Mysterious Growth of Pearls

THE real mother of pearl never has been found, for nobody knows how pearls are born and made. The evidence that they can be produced by inserting some foreign body into the mussel is doubtful, says the Chicago "Tribune," though Linnæus, the Swedish naturalist, is said to have owed much of his fame to the fact that he could produce pearls by inserting grains of sand between the valves of the fresh-water mussels which are to be found in continental rivers.

Artificial pearl crosses are reported from China as having been obtained by placing a thin metal cross within the body of a pearl oyster and allowing it to stay there until it became covered with nacreous matter.

The commonly accepted theory that a single grain of sand within the mantle is sufficient to produce a pearl must be abandoned. The expert fisherman professes to recognize a pearl-bearing shell from others. From the River Sain, which is said to hold the finest Scottish pearls, was taken recently a shell with three pearls, which was sold for forty dollars. The shell had three ridges running from the hinge to the edge of the valves. Such ridges always are supposed to be signs of pearls. In the growth of the shell room has to be left for the pearls.

Mail Under Difficulties

AN INGENIOUS method is employed to deliver letters to the islands of the Tonga group, in the Pacific Ocean. These islands, guarded as they are by dangerous rocks and breakers, are hazardous to approach, and would often have to go letterless, were the ordinary routine of delivery employed. To overcome this difficulty the steamer which carries the mails is supplied with skyrockets, by means of which letters are projected across the danger zone to the shore. A floating post office, consisting of a painted cask, is attached by chips to the rocks at the extreme point of Tierra del Fuego, in South America. To this strange post office, which is under the joint protection of all nations, every passing ship sends a boat to post and collect letters.

Disputed Points in History

FOR four centuries the little island of San Salvador enjoyed the distinction of being the bit of land which Columbus found in October, 1492, when he opened a new world to Christendom. Then San Salvador had to give way to another little island, even more insignificant, because it was demonstrated that Columbus could not have landed on San Salvador. Perhaps it doesn't make much difference, writes Frederic J. Haskin, but it illustrates the uncertainty of the facts which children are taught in school histories, for the school books will still have it San Salvador. Many of the doubtful stories told in the school histories are harmless myths, some of them are so controverted that it is almost impossible to get at the truth, and others are wrong in that they give the children positively mistaken ideas of the national history.

All New England celebrates December 22d as Forefathers' Day, the supposed anniversary of the landing of the Pilgrims at Plymouth. As a matter of fact, there is no record of what the "Mayflower's" people were doing on December 22, 1620. The true anniversary is December 21st, or December 11th, old style, the error having crept in in transposing the date to new style. The famous and almost sacred Plymouth has little warrant in history for the belief that it received the

OF CURIOUS INTEREST



Illustrated Contributions to this Department Are Invited, and Those Accepted Will be Paid For

foot of the first Pilgrim to land in New England. Not only was the first landing in Provincetown Harbor in November, but the rock was not given public notice for over a century. In 1741, when a new wharf was being built, Elder Faunce, over ninety years old, protested against disturbing the rock, because he had been told in his youth by old settlers that it was the very landing place. But as the Pilgrims did land there, the dispute is merely one of sentiment, and it makes no particular difference which rock is canonized.

The Japs as Copyists

THE Japanese have not overlooked the American way of advertising in copying our ideas, and resort to some unusual tactics in getting their wares before the people. Worshipers at Buddhist temples invariably wash their hands in a fountain at the entrance before making their supplications. Formerly the priests hung towels there. Now the merchants of Tokyo and other cities furnish the temples with free towels, reserving the privilege of printing their advertisements on them.

Bathing That is Severe

HAVE you ever thought of how the children of the different countries bathe? "The Circle" in a recent issue contained some interesting information on the subject:

A gentleman who had spent a winter away up in the Rocky Mountains of Canada, where the cold is



JIM RUNNING HORSE, A BIG SIOUX INDIAN, PICKING POTATOES IN SHERIDAN COUNTY, NEBRASKA

so great that the thermometer registers from thirty to sixty degrees below zero all winter, told me how the little Indian boys bathed; he saw them do it, so he knows it to be true. The Indian village where this gentleman was entertained by the Indian chief was on the banks of a large lake, which in winter time was frozen over with very thick ice. The Indians kept a hole broken in the ice at one place, which they called their swimming hole. Each morning this would be frozen over with a thin layer of ice, and each morning this ice was broken away, so that the Indians could take their daily bath. Doesn't it make you shiver to think of it? Just imagine bathing in water as cold as in that lake! Well, after the ice had been broken by one of the Indians, the doors of the different log huts would open one by one, and from each door a man ran down to the lake, where he dived right down into the cold water, and up again he came, and ran back to his hut. After all the grown men had bathed, the boys took their turn—boys as young as eight years old.

Finland is another country where the winters are very, very cold. And a bath house is not built as a part of the dwelling house; it is built separate, and has no windows, so that air and light can enter only through the door when it is open. In the center of the room is a pile of stones, and near these is a large vessel of water; when the boys wish to have a bath, they carry wood to the bath house in the morning and build a big fire under the stones, making them very hot, for the fire is kept burning all morning. Meanwhile a number of switches have been cut and carried into the bath house. After the stones have been made very, very hot, the fire is put out, and the boys undress and run naked through the snow to the bath house, where they throw the water from the large vessel onto the stones. This makes steam rise, and they keep this up, until the bath house is quite filled with steam. Then comes the funniest part: the boys take the switches and whip one

another all over the body. This is to make the blood circulate well, and they think it is great fun. When the boys are in a glow and have been well steamed, they run out and roll in the snow, then get home as quickly as possible. I don't believe American children would like to bathe this way, do you?

In Japan the children scrub themselves with soap and water and a rough cloth for about an hour; then, after their little bodies are all aglow and every pore open and clean, they pour clear water over themselves until there is no soap to come off. After this performance they get into the bath tub filled with very hot water, and sit in it for a long time, just because they like it, and they bathe this way every day. The Japanese bath tub is not like ours; it is very large and round and made of iron. The bath house is built around the tub, which sits on the ground, and one side of the tub is left exposed outside, so that fire can be built against it, to heat the water which is poured into the tub. A large piece of wood is laid in the bottom of the tub, so that the bather may sit on it and not be burned by the hot iron.

There are many ways of bathing in many different lands, but little boys and girls in the United States, with their porcelain tubs and shower baths, have the very nicest and easiest ways of bathing of all.

Pronouncing Indian Names

DID you ever try to pronounce an Indian name and then wonder whether you had come anywhere near the correct pronunciation? asks the Kansas City "Star." Try this rule: Place a dash after each vowel in the word and then pronounce each syllable slowly. Note the smooth, flowing sound produced, and then gradually pronounce the syllables faster until you get the entire word grouped. You will be surprised both at the ease with which you get the word and the effect in pronunciation. The most difficult Indian name is readily pronounced in this manner.

Nearly all Indian names of towns and rivers have some particular significance. The names of towns in Indian Territory will perpetuate Indian history for centuries. Only recently a new town was named Neha. This is a Creek word, and means "oil town." It was given to a siding put in on the railroad a few miles south of Muskogee in the new oil field.

"We" in Creek means water. It is found in many names in the territory and the significance attaches to the remainder of the word. For instance, here are a few. Weleetka means "running water," and Wetumka means "bounding water." Both are towns on the Frisco Railroad. Wealaka, the home of the Creek chief, means "falling water." Wecharta means "red water."

Okmulgee, which is the Creek national capital, means in Creek "head of power," and the name was given the town of Okmulgee because it was the national capital. Tallahassee conveys to the Creek mind the same impression that "deserted village" does to the English. It was the name of a town in the Eastern home of the Creeks, and also a town of that name, or what was a town, is located in Indian Territory.

How Women Bear Pain

A WELL-KNOWN physician who has made a special and exhaustive study of physiology and psychology of women writes the following on the question:

"Women can bear pains and aches far better than men. A man who has the toothache will make a fuss about it and will disorganize the whole household, however slight the pain may be, whereas a woman would bear it bravely and uncomplainingly for days.

"The fact is that a woman's nervous system is less sensitive than a man's. She has the same pain, but she can bear it better because she does not feel it so acutely.

"A very intellectual or clever man, a man who is capable of great erudition, has no more power to bear pain bravely than a baby. A little nagging ache will knock him out entirely. His temper will be affected to a most destructive extent, whereas the same amount and duration of pain will not affect a woman's temper.

"A weak, frail little woman, provided she is not run down by hemorrhage or anything of that sort, will bear an operation that would kill a powerful man.

"But, as a general rule, the more intellectual a person is, the less able is he or she to bear pain bravely. It means that the whole brains and nervous system is more active and sensitive.

"Then, again, a man who is impetuous and rash, a man who will seize a weapon and rush in where a cool-headed man would not go, is a very poor bearer of pain. The cool, calculating individual will walk about with the toothache, and say, 'It does not matter.' It is not because a man is a coward that he makes a fuss, but because he is sensitive.

"In short, woman is more timid than man, but she bears pain more bravely because she is less sensitive."



THE LION'S DEN IN THE ZOO AT WASHINGTON, D. C.



FIREPLACE MADE OF GOLD QUARTZ IN THE HOME OF MRS. SARAH B. VAN NESS AT EAST LEXINGTON, MASSACHUSETTS

The Accommodation

BY ALONZO RICE

This world is just a large depot, and in the waiting room
I am longing for the headlight coming to me through the gloom;
To hear the caller shouting—and he need not say it twice—
"This train's accommodation, and is bound for Paradise!"

There's not a curve upon the way, the track is smooth and straight,
And dreams attend the journey till we reach the Golden Gate!
The advertisement in The Book has only this advice:
"This train's accommodation, and is bound for Paradise!"

And I shall gladly take it when my weary work is done,
When shadows gather 'round me at the setting of the sun!
The schedule is an easy one, there's only just one price—
On the accommodation that runs through to Paradise.

No warning signals by the way, no lights upon the rear;
No flaming headlines reading, "Cheap Excursions Run Each Year!"
My troubles in the baggage room, I leave them in a trice
For the accommodation that will stop at Paradise.

No danger of "Tis occupied." There's room for you and me.
The lowly feel at ease beside the ones of high degree.
Good-by! The whistle's sounding! "Track one." (On time precise.)
"This train's accommodation, and will stop at Paradise!"

A Life Worth While

THE noble, self-sacrificing spirit of Margaret Prior will ever be commended. She was the mother of seven children, all but one dying during infancy. Subsequently her husband was lost at sea. In 1814 she again married and moved to New York. Her husband, Wm. Prior, was a benevolent and public-spirited man. We first find her in the more conspicuous "walks of usefulness" in 1818 and 1819. She made arrangements with a kind neighbor to furnish soup to the destitute three times a week, and then began her work among the lowly. In this way it is believed that many were relieved from starvation. Notwithstanding her arduous public duties, she managed her household affairs with care, neatness and regularity. The time that some spend in fashionable and heartless calls she spent in industry and humanity. By rising early, working late, observing the strictest rules of economy, and subjecting herself at times to self-denials, she was able to visit the suffering. Passing through the suburbs of the city one day her attention was arrested by the chime of youthful voices. Seeing that the music proceeded from some little beggar girls, who were sitting in the sun beside the fence and singing a Sunday-school hymn, she inquired of them what they were doing, when the following dialogue occurred:

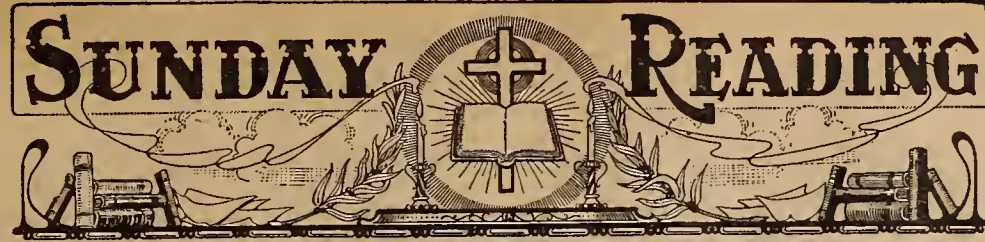
"We are cold, ma'am, and are getting warm in the sun."
"Where do you live?"
"In Twentieth Street, ma'am."
"Why have you come so far away from your home?"
"To get some food and some things to make a fire."
"Why were you singing?"
"To praise God; we go to the Sunday school, and our teacher says if we are good children God will never let us want."

Pleased with the modest and artless answers to her questions, the good woman took them across the street, procured a loaf of bread for each of them, gave them some pious counsel, and left them with smiles on their faces and gratitude in their hearts. Such were the doings, such was the character, of Margaret Prior. We see her busy organizing weekday and Sabbath schools, industrial associations and temperance societies; establishing soup houses and orphan asylums; visiting the sick, the poor, the idle, the culprit, the outcast; pointing the dying to a risen Savior, leading the destitute by the hand to the place of relief, the idle to the house of industry, and warning the outlaw and corrupt of the certain and terrible doom that would attend persistency in their downward course. With the sweetness, gentleness, simplicity and delicacy, always so becoming in women under all circumstances, were blended in her character energy that was unconquerable, courage that danger could not flinch, and firmness that human power could not bend.

A Schoolhouse as a Landmark

BY J. L. HARBOUR

SOME of the ancient schoolhouses in our country have associations that make them well worthy of preservation as his-



torical landmarks. Imperfect as they were, some of the old "destrict schools" sent into the world some of the brainiest men our country has ever known, and the records of these men, as well as those of some of the most successful men of modern times, have in them much that should encourage the young fellow of to-day who may feel that he is handicapped because he has not had a college education and must fight the battle of life without the advantage a college education gives.

Some of our patriotic societies are doing good service in preserving these old landmarks and making of them houses in which are stored interesting and valuable collections of historical relics. A patriotic woman of Boston, the late Mrs. Mary Heminway, set a fine example of real patriotism when she gave one hundred thousand dollars with which to purchase the famous Old South Church to keep it from being torn down. This act created a new reverence for many of our historic buildings, and the organization of patriotic societies of many kinds has served the good purpose of fostering this reverence and increasing it, and a number of schoolhouses in which great men went to school are being preserved. Among them is the old schoolhouse in which Nathan Hale taught school at New Britain, Connecticut. The Daughters of the American Revolution now own the little schoolhouse in which this brave young hero was teaching when he threw aside his books and took up his musket, saying as he did so:

"Let us march immediately and never lay down our arms until we have gained our independence."

Above the fireplace in the old Nathan Hale schoolhouse one may read these words:

NATHAN HALE, TEACHER, PATRIOT, MARTYR

Any service necessary for the public good becomes honorable by being necessary.

At Vineyard Haven, Massachusetts, is another ancient schoolhouse which is being preserved by the Daughters of the American Revolution. This also is a Revolutionary landmark of special interest. It was a country schoolhouse in the days of the Revolution, and the tall liberty pole in front of the house has an interesting story back of it.

In the long-ago days of the Revolution a British ship that had become disabled was about to take a liberty pole the patriotic people of Vineyard Haven had erected and use it as a mast for their disabled ship. There were no men at hand prevent the Britishers from carrying out their purpose, but three courageous women—Maria Allen, Polly Daggett and Parnell Manter—sallied forth and blew up the liberty pole rather than see it carried away by the British. Descendants of these three plucky and patriotic women have had the pleasure of seeing a tablet to their memory unveiled in the old schoolhouse before which the liberty pole stood. There is a very fine collection of Revolutionary relics in the house, which is in an excellent state of preservation.



WHERE NATHAN HALE TAUGHT SCHOOL AT NEW BRITAIN, CONNECTICUT

A Rich Man Brought to Terms

THE truth of the good old saying, "God moves in a mysterious way, his wonders to perform," is abundantly fortified in the case of one Robert Carrick, as told by "Rain's Horn."

Carrick, one of the richest bankers of Scotland a few generations ago, was said to be as mean a man as he was wealthy. Being one day visited by a deputation collecting subscriptions toward a new hospital, he signed for two guineas; and the gentlemen expressing disappointment at the smallness of the sum, he said, "Really, I cannot afford more."

The deputation next visited Wilson, one of the largest manufacturers in the city, who, on seeing the list, cried, "What! Carrick only two guineas!"

When informed of what the banker had said, Wilson remarked, "Wait. I will give him a lesson."

Taking his check book, he filled in a check for ten thousand pounds, the full amount of his deposit at Carrick's bank, and sent it for immediate payment.

Five minutes later the banker appeared breathless, and asked, "What is the matter, Wilson?"

"Nothing the matter with me," replied Wilson; "but these gentlemen informed me that you couldn't afford more than two guineas for the hospital. 'Hello,' thinks I, 'if that is the case, there must be something wrong, and I'll get my money out as soon as possible.'"

Carrick took the subscription list, erased the two guineas and substituted fifty, on which Wilson immediately tore up his check.

The hospital was built, and here the best part of the story begins, for the rich man who was thus forced against his will to raise the amount of his subscription soon began to take interest in the work the hospital was doing. Before many years he contributed sufficient to fully endow and maintain it.

Requests to the World

ALMOST daily we read in the papers about family quarrels and suits to upset wills by dissatisfied heirs of the rich, and indeed one can hardly blame the poor man for finding some consolation in the fact that his family and relatives at least will not be quarreling and fighting over his wealth after he has gone.

The last will and testament of one Charles Lounsberry, whose death occurred in a poorhouse, is of itself of far greater value to mankind than many of the bequests of the ill-gotten millions of the rich, and any one who reads this pauper's unique will must needs feel himself an heir, satisfied and thankful.

"I, CHARLES LOUNSBERRY, being of sound and disposing mind and memory, do hereby make and publish this, my Last Will and Testament, in order, as justly as may be, to distribute my interest in the world among succeeding men.

"ITEM: I leave to children, inclusively, but only for the term of their childhood, all and every, the flowers of the fields and the blossoms of the woods, with the right to play among them freely according to the custom of children, warning

them at the same time against thistles and thorns. And I devise to children the banks of the brooks, and the golden sands beneath the waters thereof, and the odors of the willows that dip therein and the white clouds that float high over the giant trees.

"And I leave to children the long, long days to be merry in, in a thousand ways, and the night, and moon, and train of the Milky Way to wonder at, but subject, nevertheless, to the rights hereinafter given to lovers.

"ITEM: I devise to boys jointly all the useful idle fields and commons, where ball may be played; all pleasant waters, where one may swim; all snow-clad hills, where one may coast, and all streams and ponds, where one may fish, or where, when grim winter comes, one may skate, to have and to hold these same for the period of their boyhood. And all meadows with the clover blossoms and butterflies thereof; the woods with their appurtenances, the squirrels and the birds and echoes and strange noises, and all distant places which may be visited, together with the adventures there found.

"ITEM: To lovers I devise their imaginary world, with whatever they may need, as the stars of the sky, the red roses by the wall, the bloom of the hawthorn, the sweet strains of music and aught else they may desire to figure to each other the lastingness and beauty of their love.

"ITEM: To young men, jointly, I devise and bequeath all boisterous, inspiring sports of rivalry, and I give to them the disdain of weakness and undaunted confidence in their own strength. Though they are rude, I leave to them the power to make lasting friendships and of possessing companions, and to them exclusively I give all merry songs and brave choruses to sing with lusty voices.

"ITEM: To our loved ones with snowy crowns I bequeath the happiness of old age, the love and gratitude of their children until they fall asleep."

A Vision of Glory

A YOUNG Scotch girl, who was taken ill in this country, knowing that she must die, begged to be taken back to her native land. On the homeward voyage she kept repeating, "Oh, for a glimpse o' the hills o' Scotland!" Before the voyage was half over it was evident to those who were caring for her that she could not live to see her native land. Describing the incident, the "Watchman" continues: One evening, just at the sunset, they brought her on deck. The west was all aglow with glory, and for a few minutes she seemed to enjoy the scene. Some one asked her, "Is it not beautiful?"

She answered, "Yes, but I'd rather see the hills o' Scotland."

For a little while she closed her eyes, and then opening them again, and with a look of unspeakable gladness on her face, she exclaimed, "I see them noo, and aye they're bonnie." Then, with a surprised look, she added, "I never kenned before that it was the hills o' Scotland where the prophet saw the horsemen and the chariots, but I see them all, and we are almost there." Then, closing her eyes, she was soon within the veil. Those beside her knew that it was not the hills of Scotland, but the hills of glory that she saw.

Perhaps there are some fair hills toward which you are now looking, and for which you are now longing, and you may be thinking that life will be incomplete unless you reach them. What will it matter if, while you are eagerly looking, there shall burst upon your vision the King's country, and the King himself comes forth to meet you and take you into that life where forever you shall walk with him in white because you are found worthy?

The Irrigated Land

CLIFFORD TREMBLY IN SUNSET

Through countless centuries I slept,
Sun-baked and thirsty to the core,
While over other lands there crept
The moisture plentiful—and more.

Day followed day—no living thing
Upon my famished bosom grew:
No song of birds, nor anything
That other lands in fulness knew.

Shunned was I by the march of man,
Counted as treacherous and base:
By men and beasts placed 'neath the ban
And marked with scorn—the desert place.

They came! and waked me from my sleep,
Held to my thirsty lips the cup,
And drinking, drinking, long and deep,
My head, in gladness, I held up.

And now across my fertile fields
The farmer takes his busy way,
In glory my dominion yields
Its richest treasures day by day.

The waving grass, so cool and sweet,
Bedecks the one-time desert place:
Ashamed no more, I gladly greet
My children, men, now face to face.

Gay Pipers

BY MARGARET WENTWORTH LEIGHTON

"A H, BROTHER BULLFROG, looking about for the members of your orchestra, are you? I met Cousin Woodfrog in a new brown suit a moment ago. There are the little treefrogs all in fresh gray, with bits of gold peeping out here and there. How sweetly they pipe this morning!"

"Yes, they are all in tune," replied Master Bullfrog. "I shall not have to spend any time training them. How is it with you, Sir Spotted Back?"

"Oh, my instrument is in first-class order."

"Good," said the leader. "I want you all to meet me on the old log in Beaver Swamp at moonrise to-night."

* * * * *

"Kneedeep, kneedeep, peep, peep, kneedeep, kneedeep, peep, peep,"

sounded first the master's sonorous bass and then the answering Hyla's clear treble.

"Tra-la-la, tra-la-la, how the woods ring! Tra-la-la, tra-la-la, hear the frogs sing!"

'Twas midnight before the rehearsal was over, but each musician felt well repaid



with the friendly slap on the back and hearty "Fine, Froggie!" of the leader, as he bade them good-night, or rather good-morning. Each player was thankful to plunge into the brook and cool his swollen throat and swallow a few juicy worms, while he waited for daylight to catch his breakfast of gnats, midges and flies, with an occasional shrimp or a tiny troutling as a titbit.

How Bob Lived His Religion

THE boy who knows right from wrong and who fearlessly stands up for the principles he feels are right is the boy who makes for himself an enviable place in the world, whether it be in the realm of business, profession or ordinary labor. He is bound to succeed.

The "Christian Observer" tells an interesting tale of one called Bob, who began work at a salary of thirty-five dollars a month, and when he drew his first month's salary he counted out his money and laid aside three dollars and fifty cents.

"Now," said he, "that is my church money for this month."

"You don't mean to give that much out of your own month's salary, do you?" said some one.

"No," replied Bob; "I am not giving that, I am only paying my debt; that tenth belongs to the Lord. After that comes the giving."

After a while Bob got a raise to fifty dollars a month.

Some of the boys said, "Well, Bob, I suppose you will give five dollars out of your month's wages?"

"I'll pay my debts," said Bob.

Again he was raised to sixty dollars a month, and it was the same thing.

But Bob was to be tested in another way. One Saturday afternoon the assistant superintendent said, "Well, boys, I don't have you to work on Sunday, as a rule, but we are behind now, and you will all have to come down to-morrow and work to get things in shape for the end of the month."

Bob spoke quietly, "I can't work on Sunday."

"Now, Bob, this is the first time I have had you boys to do so, and we must work to-morrow to catch up."

"I'm sorry, sir," said Bob firmly, "but it is against my religion, and I can't do so."

"Well, Bob, if you can't do the work I want you to do, at the time I want you to, I'll have to get a man that will."

Sunday morning every one but Bob went down to work; he went to Sabbath school and preaching. Monday morning he was "fired."

That night, when Bob brought in his part of a month's wages, some of the boys said, "Well, Bob, I guess you won't give any of that money to the church, but keep it to live on until you get another job."

But Bob still paid his dues.

Bob started out at once to hunt him another job.

But days passed, and still he was out of a job, until the boys thought things pretty blue for him. But there was a brighter day ahead for him.

One day the president of the company came on. He knew Bob, and missed him right away. "Where is Bob T—?" said he.

"I had to let him go."



"What was the matter?"

"I had to work some on Sunday, we were so badly behind; Bob refused to work, so I had to let him out."

The Colonel made no further remark then, but afterward he asked about Bob—where he was and what he was doing. He sent for him to come to his office. Bob went over next morning.

"Well," said the Colonel, "you are the chap that preferred losing a job to working on the Sabbath?"

"Yes, sir."

"You are the boy that I have been looking for—one that will stand by his principles. You can go to work at once in my office. What salary have you been getting?"

"Sixty dollars a month was my last salary."

"I'll start you at seventy-five dollars," said the Colonel.

And little Bobbie went on climbing up, until he climbed up to New York, and the last I heard of him he was getting one hundred and fifty dollars a month, and he may be still climbing, for I have lost sight of him for some years.

The Fifty Cents

BY VERA TURNER

"I SAY, Tommie," said Mat, throwing himself down on the grass by the side of his little brother, who was playing with his toys, "I saw the prettiest little ship down town. It was all red, white and blue, and had a large American flag hoisted above. My, but couldn't we have fun if I had that!"

"Oh, yes," the little fellow exclaimed eagerly. "But do you s'pose you could get it, Mat?"

"I don't know. That depends," replied his brother, looking very grave. "I haven't but fifty cents, and it costs exactly one hundred pennies."

"I would let you have some, Mat, but I haven't even one penny," the little boy said in a disappointing tone.

"Oh, yes you have. I say, Tommie,"

Mat moved closer to his little brother and spoke scarcely above a whisper, "suppose you let me have the money you have saved in your missionary box. You know you can lend it to me, and I will pay you back by the time you need it."

"Why, Mat, you know I couldn't do that," exclaimed Tommie in surprise, "for I have promised Miss Elwood never to take the money out of the box after I have once put it in."

"Oh, pooh! don't be a goose. She need never know anything about it, nor anybody else, for that matter."

"But I would, Mat, and God would know, too," he replied, as a tear trembled on his eyelash, then rolled down his little brown cheek. "I don't believe I ever could say my prayers again if I did take it out."

"But I promised to pay it back. You see that's different," answered Mat stoutly.

"No, it isn't, for that wouldn't be the same money that I put in it at first. Don't you understand, Mat?" he inquired, leaning eagerly toward his brother.

"No, I don't. You are a stingy boy, that's all," muttered Mat, as he rose from the ground.

Just at that moment Mrs. Merton, a neighbor lady to the two little boys,

called to Mat and asked if he would care to come over to her house and keep little Bobbie while she went up town to do a little necessary shopping. But Mat was in no mood to mind a baby that evening, so murmured some sort of an excuse as he walked off. Tommie dropped his toys and looked up inquiringly.

"May I keep him, Mrs. Merton? - I would love to," he said, his little face flushing with pleasure as he thought of the good romps he could have with Baby Bobbie.

"I don't know. I fear you are too small," she said doubtfully.

"Oh, but I'm lots bigger than Bobbie," said Tommie, standing erect.

Mrs. Merton smiled down at the little fellow. "I believe I will try you, Tommie," she said.

Two hours later Tommie was running home and holding something very tightly in his little chubby fist.

"Guess what it is, Mat?" he exclaimed, holding his hand up before his brother.

"Oh, I don't know. A piece of candy, like as not," replied Mat indifferently.

"No, it isn't," laughed Tommie, shaking his head.

"A dime?" suggested mama.

"Something better than that," the little fellow replied, as he cautiously raised his fingers and peeped in at his hidden treasure, then clinched them together as tightly as before.

"Oh, come now, Tommie, tell us what you have," coaxed Mat.

"There, then," he laughed, as he spread out his little fingers and showed them a bright fifty-cent piece.

"Whew!" exclaimed Mat, "it is just enough to get that ship. I wish I had kept Bobbie now."

"You may have it, Mat, for I was going to give it to you all the time," said Tommie, handing the silver piece to his brother.

"But I don't like to take it," Mat replied, flushing red with shame as he thought of the word "stingy" he had applied to his little brother but two hours previous.

Tommie understood Mat's feelings, and said brightly, "Oh, I don't mind, Mat."

"You needn't take it, Mat," said mama. "Let Tommie pay fifty cents and you fifty cents, then you will each own half of the ship."

"Why, just the thing!" exclaimed Mat.

"I never thought that Tommie would like to own part of it, but of course he would. I won't be so selfish any more, or ever call you stingy, Tommie," he promised.

Do It Now

WHEN you've got a job to do, do it now! If it's one you wish was through, do it now! If you're sure the job's your own, just tackle it alone; don't hem and haw and groan—do it now!

Don't put off a bit of work, do it now! It doesn't pay to shirk, do it now! If you want to fill a place and be useful to the race, just get up and take a brace, do it now!

Don't linger by the way, do it now! You'll lose if you delay, do it now! If the other fellows wait, or postpone until it's late, you hit up a faster gait—do it now!—Evangelical Messenger.



A MERRY DAY IN THE COUNTRY

The Box Turtle

"GOOD-MORNING, Mrs. Spotted Back, how are you to-day?"

"Oh, nicely, Mrs. Box. How are you?" "I've just been over to the sand bank, on the further side of Swain's Pond, to lay my eggs. It's such a nice warm place for them!"

"I laid mine weeks ago," said Mrs. Spotted Back, "and I happened to be passing just as three of my babies were leaving their shells. How it gratified me to see them, the moment they found their little legs would bear them up, point their noses pondward and make a bee line for the water as fast as they could go."

"Will you dine with me to-morrow, Mrs. Spotted Back?" asked the box turtle. "We shall have grass soup, cress salad, sun-baked bulbs and fresh strawberries."

"I thank you kindly, Mrs. Box," said the spotted lady, "but really without my regular worm breakfast, shrimp lunch and young trout dinner I don't see how I could support life for a single day. I really do not see, Mrs. Box, how you manage to carry your house about on such a slim diet as you partake of, and purely vegetable at that!"

"I'm sure I should die of indigestion



if I should indulge in your bill of fare for so much as a day," replied Mrs. Box, as they waddled off in opposite directions.

M. W. L.

What the Shipwreck Brought

BY HILDA RICHMOND

IT WAS pouring down rain, and the children were playing that the big sheltered front porch was a desert island. They were wrecked on the island and were nearly starved, so they had a handkerchief on the broomhandle for a signal to passing ships. It was great fun, and they were having a fine time in spite of the tiny pitcher of water and the bits of bread that they kept shouting were all they had to live on.

"Molly, you and Ned go out on an exploring party," said the captain to two of the crew. "Keep in sight of the camp and see if you can bring in any provisions." The captain used all the long words he could think of in giving his orders. "Tommy, you and Joe keep a brisk fire burning, and Susie will wave the flag in case she should see a vessel passing."

Molly and Ned hurried into the kitchen, and Ned said loudly, "There is one of the natives over there. Maybe she will give us something to eat."

"Please, we're shipwrecked sailors, and we'd like something to eat," said Molly, pulling at Hannah's skirts. "We'd like some cookies to take, to our starving—"

"I want you children to get right out of here," said Hannah. "You do bother me most to death. Run right along now!"

"Did you see any one?" asked the captain, as the two explorers came back.

"Did you get anything to eat?" cried Tommy. "Don't ate up all the bread and stuck his nose in the pitcher."

"We only saw a savage," said Ned dolefully. "She chased us away from her country."

"Look here!" screamed Joe, coming with a basket overflowing with bananas, oranges and peaches. "This was lying around the corner half upset. Who do you suppose brought it?"

"I don't know, but the fruit is for us, of course," said the captain, taking charge of the basket. "I will carefully divide the provisions the shipwreck has brought. They will have to do us until another relief boat comes."

"Where is the boat that brought these?" said Susie, with her mouth full of peach.

"Are the folks all drowned?"

"You must say crew, Susie," said the captain with a frown. "We will look for them as soon as we finish our lunch. I am afraid my faithful crew would starve if we waited any longer."

But in the midst of the feast the sun shone out and old black Uncle Jerry came from a sheltered corner back of the house. "Land alive! Missus, look-a-heah, what dem youngsters do wif Jerry's stuff. I done put it on de porch to keep it out ob de rain."

Mrs. Cole hurried out, to find the basket half empty and the children trying to tell old Jerry they thought the fruit was meant for them. She took out her purse and paid Jerry for the fruit they had eaten, and he went on with his basket.

"Next time I keep it by me," he said with a laugh. "Don't want to be in no more shipwrecks!"

Spilled Milk

BY WILLIAM EBEN SCHULTZ

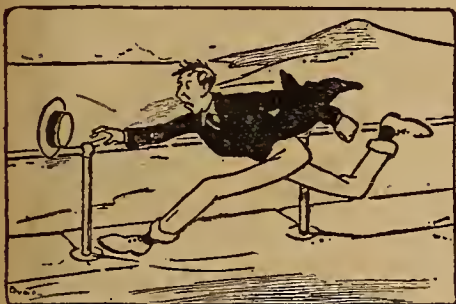
"What do you do," the stranger said
To the milkmaid at his side,
"When the skies of winter are overhead
And the winds are howling wide,
When the ground is covered with snow and
ice,
And you slip and spill your cream?"
The girl replied, with a manner nice,
"As a matter of fact, I scream."

How Casey Was Done

CASEY was on his way home from a fishing trip down by the bell buoy. He had a fine string of blackfish, so heavy that he thought he needed a counterweight to balance them. Not having a can with him, he had dropped in to put another weight in the middle, where he believed it would do almost as much good.

"An' ivery wan of us," he said, winding up his story of the day's fishing, "wint away wid fifteen foine blackfish on his string."

"How many fish did you catch in all?" some one asked.



—Melbourne Leader.

A STRAW HAT WILL SHOW WHICH WAY THE WIND BLOWS

"Sixty," said Casey; "there were four of us."

"Who were they?"

"Well, I was wan, an' the two Kelleys was two, an' Finnegan was three, an'—Finnegan he was three, an'—I'm sure there were four of us! But who the devil was the other fellow?"

Casey began again.

"Try it this way," he said. "Finnegan was wan, an' the two Kelleys was two, an' I was three, an'—an', I'm blessed if I can think who was the other wan."

Then Casey laid down his string of fish and began counting off the members of the fishing party on the fingers of his disengaged hand.

"I was wan," he said, doubling up a finger as he went along, "an' the two Kelleys was two, an' Finnegan was three—"

"But the two Kelleys were three," some one broke in.

"Do you know the two Kelleys?" asked Casey warmly.

"No."

"Well, then how can ye say the two Kelleys was three? Go on, man; you're drunk!"

Casey stood thinking it over for a minute, and then picked up his string of fish.

"I'm dommed," he said, "if the rascals didn't do me out of—three is in sixty twenty times—out of five fishes!"—New York Sun.

Forgiveness

"I've come home again," he said, as he stood at the doorway of the darkened slum dwelling and frowned sulkily.

The woman rose and faced him.

"You can't come here any more," she said slowly. "You went away to please yourself, and it's to please yourself you've come back; but it ain't no use."

"Give us a kiss," he broke in angrily.

"No," returned his wife, "not after eleven months."

Crash! The cheap alarm clock rebounded from the wall. A few savage strokes with the poker and everything breakable in the home the woman had worked night and day to keep together was smashed.

She shivered.

"You're 'aughty, are you? I'll teach you to play that game with me—d'ye hear?"

Five seconds of silence, during which the two looked at each other.

A jeering growl, a brutal jest, a string of oaths which would have made a martyr tremble.

Then a cracked jug, flung with drunken energy, struck the woman on the temple.

"It wasn't his fault," she told the people at the hospital. "I was naggin' at him."—G. F. Nichols in Daily Mail.

MRS. BRIDEY—"I know you'll be pleased to hear that I think I'll be able to save a little on our household expenses this week."

MR. BRIDEY—"Well, dear, that will be a feather in your cap."

MRS. BRIDEY (eagerly)—"An ostrich feather?"



Making Money Sprout

"High finance is not confined entirely to Wall Street," said John E. Wilkie, Chief of the Secret Service. "I saw an example of it the other day that made me dizzy."

"One of the clerks in the Treasury wanted to go to the ball game. He had but twenty-five cents, his exact admission, and nothing for car fare."

"He announced he would raffle his twenty-five cents for two cents a share. Eighteen clerks took chances. One won the quarter for two cents, but the thrifty promoter had twenty-five cents for his ticket, ten cents for car fare and a cent over for an afternoon paper."—Saturday Evening Post.

Playing "For Keeps"

"Now, Alec, don't be selfish," said his mother; "baby's only going to play with your marbles for a little while."

"No, mother, he is going to keep them always if he can."

"Oh, no, dear."

"I'm sure he is, mother, 'cos he's trying to swallow them."—The American Boy.

SHE—"I can't understand why Lord Busted wants a divorce. His wife had half a million when he married her."

HE—"Yes, and she's got every penny of it still. That's the trouble."

MOTHER—"Oh, professor, don't you think my dear little Reginald will ever learn to draw?"

PROFESSOR CRAYON—"No, madam; not unless you harness him to a truck."

"Are we alone?" asked one of the villains of the piece of his brother conspirator.

"No, guv'nor," came a voice from the gallery; "but you will be to-morrow night."—London Tatler.

He Had a Good Excuse

"Good-morning, Mrs. Stubbins," said the parson. "Is your husband at home?"

"E's 'ome, sir, but e's abed," replied Mrs. Stubbins, who had just finished hanging a pair of recently patched trousers on the clothes line.

"How is it he didn't come to church on Sunday? You know we must have our hearts in the right place."

"Lor, sir," retorted the faithful wife, "is 'eart's all right. It's 'is trouziz!"

A Presidential Compliment

The late President McKinley was one of the most amiable men in the world, and could be equally gallant. On one occasion a very sweet and attractive woman said to him:

"Mr. President, I do wish my husband had such a temper as yours."

"Thank you," he responded, bowing; "but really, madam, you ask too much."

She didn't quite catch the drift of his reply and looked it.

"You see," he went on, "two such tempers in the same family would be a prodigality of sweets."

The explanation made the drift quite apparent, even if the President hadn't laughed a little at her, and her face reddened like a girl's.—Judge.

"A jealous girl, that Elsie."

"How is that?"

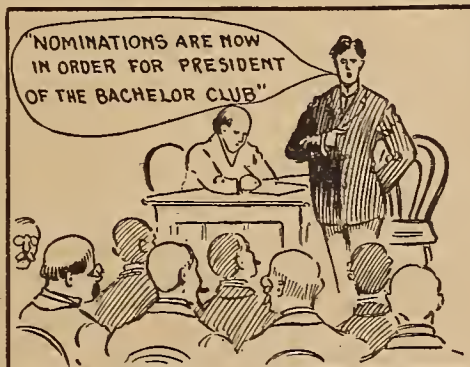
"I told her four weeks ago in the strictest confidence that I was secretly engaged, and up to now she hasn't told a single person."

HIS WIFE (a year later)—"When you proposed to me you said all I'd have to do if I married you would be to sit around and look pretty. But alas! how very different."

HER HUSBAND—"Well, it isn't my fault if you can't look pretty nowadays."



Nicknames of Men Prominent in American History



Answer to Puzzle in the August 10th Issue: John Adams—"Colossus of Independence." John Quincy Adams—"Old Man Eloquent." James G. Blaine—"Plumed Knight." Thomas J. Jackson—"Stonewall." Francis Marion—"Swamp Fox." Daniel Webster—"Black Dan."

The Winder Pane

BEIN A TALE OV WO, BY BIL

Part Wun (1)

Pa is a od man, ma sez, wich i dont dout is troo. yu no pa red a pees in a Triffin paper other wise called a Maka-zeen wich told about bein wel. i gess he did, cos wun time at the tabul he sed to me and ma: Ladys and gentel-mun, hoo valyu yure lives wich yu liv, listen too my good nuse. my paper sez evry humen rich an pore ort too Fast a hole day wunce in a while, which i didnt no wat he ment then. so then he keps on an sed next mundy mornin at six o clok i am goin too puit eatin a tall for a hole an solid day, an if i dont i hope yule pul evry sprig ov hare out ov my skul, an the swet cum out on his fase like buk shots.

Part Too (2)

Wel, finelly sundy cum an yu ort too hav seen my pa eat. an after he got thru he eat more. an then when nite cum, after supper, he rosted 41 big sweet potaters



—Harper's Weekly.

"AN' GEORGE SAYS TO ME, HE SAYS—"

on the harth, and after he had eat all but a fu, he leend bak, an kinder gronde like he didnt feel wel an soun. so wen he went too bed he went too bed awful erly, sayin he wanted a good nites sleep. so i went too bed too, not havin a thing too do.

Part Thre (3)

Now, if yu had a herd pa yel like a striped or spotted hiena, i rekon yude a thot he had a nite mare too like i did. so i slep on without stoppin pas dreem, wich i soon found out wus not a dreem a tall.

Wen the dokter got here, he sed he thot pa needed a nife used on him, wich pa had sents enuf too say no. so the dokter left him a hanful ov pills, an left him to fite for his miserbul life in Silents. wen evenin cum, pa cum to his sentses an sed if that winder hadent a bin Open i wood be a wel an happy man. but say wot yu wil a bout this fastin bisnes, but if i hadent a fasted all day too day i wood be as ded as a dozen Rebels. now Mr. edtur, pleas let me no if it was fastin wich Saved pas life or the Hevy eatin wich made him sik. pa sez the 1st an i say the 2nd.

If pas rite he is goin too run for Sherif an if i am rite he is goin too liv his same old Triffin life. postage on a leter is 2 sents or twice as much if you rite much.

MISTRESS—"What did the ladies say when you told them I was not at home?"

MAID—"Sure, wan uv thim said it's after bein' better t' be born lucky than rich."

When Father Has the Grip

Poor mother wears a worried look,
And sister wears a frown;
And if I venture up the stairs
They send me straightway down.
I'm going to the drug store now,
Upon a hurried trip,
To get some other kind of dope,
For father has the grip.

I heard him groaning in the night,
He said his head would split;
And then he thought his back would break
In just a little bit.
He told us that his legs were sore,
And soon it was his hip;
It seems that everything is sick
When father has the grip.

The doctor came to-day and left
Some capsules, and he said
To take one each three hours until
The pain had really fled.
Says pa, "That means twelve hours before
I give this pain the slip;
I'll bet he'd find a faster dope
If he had got the grip."

And then he told ma that he thought
That he was going to die;
And ma says no, that isn't so,
And gave the reason why.
Then pa got mad and told her that
He didn't want her lip.
Oh, there's no comfort in our flat
When father has the grip.

—Detroit Free Press.

Somehow the faster you run in debt
the more you get behind.—Philadelphia Bulletin.

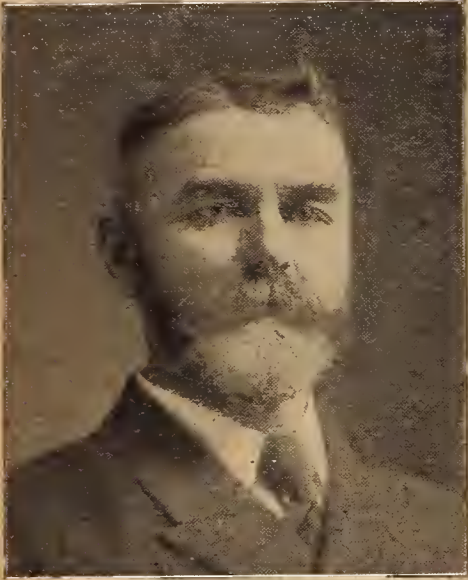
The Grange

BY MRS. MARY E. LEE

HON. GEO. W. PIERCE

ONE of the new members of the National Grange will be Hon. Geo. W. Pierce, Master of Vermont State Grange. As the Grange is playing such an important part in the economic and educational development of the country, its personnel is of wide interest.

Mr. Pierce comes of a fine old New England family whose names are famous in the annals of their state. He secured the beginnings of an education in the country schools, and has built upon it by a life given over to study, investigation



HON. GEO. W. PIERCE

and observation. His position in society has been such that he has been thrown with men of affairs in the business and governmental world. Such was his strength that he would have won this place anyway.

When thirty-two years of age he became manager of a large public farm, The Retreat, which he brought to a high degree of productivity. In 1892 he was appointed member of the state board of agriculture; in 1897 commissioner to the Tennessee Centennial Exposition; in 1899 to the Farmers' National Convention; for six years he was secretary of the Vermont State Dairymen's Association, for one year its president, and declined re-election. Elected to the Vermont Senate in 1904, he became an active champion of farmers' interests. After the committee had reported unfavorably on a grade-crossing bill, which he was pushing, one member only voting for it, he brought it through the committee and secured its passage.

He has been a member of the Grange thirty years, for three years master of his own Grange, during which time he added one hundred and seventy-six members. He has held many positions of honor and trust and promises to be a strong member of the national body.

GRANGE ATTENDANCE

When a Grange complains of lack of interest and small attendance it is a pretty sure evidence that it is not half trying. "But we try so hard," some one exclaims. No, you do not. People will go where it is to their interest to go.

Human nature is pretty much the same the world over and in all times. I grant that their interests may not be on a high plane; that they are contented with meager attainments; but it is the duty and the pleasure of noble-minded people to provoke the sleepy minds to interest in a wider circle of things. I realize the hardness of the task, but it's worth while.

By the way, did you ever think why this is so? Children are eager and inquiring, but on every hand are met with "I don't know; go away and don't ask so many silly questions," when the questions are not silly at all, but simply hit one of the several million things of which the person of whom the question is asked is ignorant. Carry this into every detail of life and you will be ready to exclaim with Emerson that society is simply a case of arrested development, or with Carlyle that it is just a chain of stupidity.

These people of whom you complain are victims, and they make their own victims, and only through slow stages is progress made. Pitiful? There is nothing more pitiful in this world than strong men or women clipped of their prowess because they do not know, yet they possess the native ability to know if not dwarfed by home, school or other environment.

Enough for the philosophy of the thing. We each are sufferers. Were it not for the divine discontent no Granges or schools or social clubs would exist. It's humanity's love for humanity that holds men and women to the struggle. Is there not hope in that oh ye who struggle for your kind?

Rouse interest. How? Do something. What? Invite all the teachers and patrons of the schools to an open meeting where school problems are discussed. Usually you can get a speaker from the school commissioner's office or the college or state university who will come free of charge. Don't eat. Sisters, don't cook. If you have had your regular meal at six o'clock you don't want another at eight. Teachers and people didn't take interest and did not come? What matter? Try again. Finally you will provoke discontent in others, and they will become helpers. Get the organizer of rural-school agricultural clubs to come from the university and talk agriculture. That's one good thing.

Get the children together in a juvenile Grange and get them to work in some of the ways they want to. You won't have to urge them. Did you ever think that the restlessness of the child was your great opportunity? He is interested in everything. Use that interest. In winter they will want to make collections of natural objects, of woods and stones, and watch the tearing down and building up of the soil in some of its most open aspects. This will go into harder study later in life, and the first thing you know your community will be noted for being one of the most progressive, agriculturally, of any about. You will be so busy you will not notice it. Arrange to have a splendid time where the fleet feet and energy may find expression. The young people will go with more zest to something more serious. And did you ever notice how serious children really are? Appeal to that studious habit instead of dwarfing it, as the schools and the other environments now do. Get Bullfinch's Mythology and study well the stories and legends. Get some penny pictures and hang on the wall. You want to tell the story of Ceres. Get several pictures of Ceres, Proserpine and Pluto, and tell the story. You will be unable to keep the children away, or the older folks, either. Do the same in the story of corn, wheat, shorthorns.

Are you satisfied with your roads, your schools? There is enough in these alone to keep you busy. How about the diseases of stock and plants? Do you have any? What are you doing to eradicate them? Have you a band or a good chorus? Do you really know anything about music? Do you have debates in the Grange? Nothing to talk about? There never has been so many things clamoring for help as now, and there never was a time when country men and women had such splendid opportunities for social service as now. But they must know. And they can know by study, by investigation, by meeting and talking the matter out.

I wish I had space to tell in detail some of the work some very earnest Granges are doing. They are simply following the lines suggested here, each doing the work that appeals to them as the thing worth doing. Go ye and do likewise.

THE OBSERVATORY

State Master Horton is said to have one of the finest farm homes in the country, fitted with all modern conveniences. He is called the "Cheese King."

Thirteen thousand and fifty-four girls and twelve thousand seven hundred and forty-seven boys entered college in September, 1905. What a splendid record!

Massachusetts is looking forward to a splendid Grange reunion at the state fair at Worcester, September 4th, when several of the national officers will be present.

Ohio Grange reunion days, September 4th and 5th, are to be red-letter days in history. The state is planning a home coming on a magnificent scale, and prominent Buckeyes will be present to make the time a joyous one. Ex-governor Bell, of Vermont, Member National Executive Committee, will be present and make addresses both days.

The executive committee of Massachusetts State Grange is co-operating with the gipsy moth committee from the state board of agriculture in suppressing the ravages of this dreaded pest. Thousands of acres of timber are being destroyed. The financial loss to the state is appalling, and State Master Richardson is calling on all Patrons to take aggressive action in destroying the moth.



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GRADUATING TO THE FARM

"To the farm? That is not the way it usually goes. When the boys and girls graduate, it almost always is from the farm, not to it."

That has been true, but it is not so much so as it was. I had my attention called to this very forcibly recently by a letter that came to me from a young man in a distant part of the state of New York. I wish I could give the letter in full, but with the permission of the editor I will quote the substance of it:

"I have been thinking it over very seriously, and I have made up my mind that I will come back to the farm. I have seen a good deal of other things, and I believe there is no better place than the farm to take comfort. I may not make as much money as I do here, but I will have just as much, after all. I will have the best-kept farm in the neighborhood!"

It will be interesting to give a moment to the history of this young man. He was brought up on the farm he now intends to go back to. When seventeen years old he went to a state normal school and worked four years to prepare himself for the work of a teacher. After graduating he spent two years successfully in teaching. But all the time he was thinking about the free life of the farm. The country kept calling to him. They say when a man once gets a smell of printers' ink he never wants to do anything but newspaper work. It seemed to be that way with this young man, so far as life in the country is concerned. He never forgot the freedom of the farm. I wonder if that is not so universally? Do not all the men who leave the farm and go into some other kind of business always think back to the country with a longing for its scenes? I am sure it is so with most men I know who have had a taste of the farm. They try to satisfy themselves with the thought that they are doing better financially where they are, but that is, after all, a poor way to look at it. Life is not to be measured by the gold standard.

There is something refreshing about the letter of the young man to whom I have referred above. The last sentence is especially good. "I will have the best-kept farm in the neighborhood." If that is not a laudable ambition, I do not know what could be. So many times we are satisfied to "get along" on the farm. That means that we are satisfied if we can get enough to eat from day to day, a place to lie down at night and a fairly good wagon to ride to town in. That is a poor ideal for any of us to have. I would rather look forward to something a little better every year than to be content simply to exist. Wouldn't you?

Well, what about that young man? Will he miss it if he goes back to the farm? That will be the question many will ask, and ask honestly, for it is a fact that thousands all over the country are turning longingly toward the farm. Will it pay? That is the question.

I am an enthusiast on the farm question, that is true. But I believe I do take a fair view of the matter, after all. I am not so prejudiced in favor of the farm that I cannot see anything but sunshine about it. There are hard things about the farm. Any practical farmer can tell you that. Many times it seems as if the farmers have to do a great deal of work, and hard work, too, for which they get no adequate return. I know that many farmers break themselves down with hard work. They are the ones that try to do too much in a year, instead of remembering that there are more years to come. Men may be decidedly intemperate in work. I know, too, that there are not many farmers that accumulate very great fortunes. If they do, they must have some side line that brings in more money than legitimate farming can do.

But while I know all this, I know also that there is on every well-regulated farm a degree of peace and comfort that outweighs any money consideration, with men who really want to live and make the most of life for themselves and for their boys and girls.

And there is money enough on the farm. What do we want of more than enough to make us comfortable? If we give our families a good home, educate our children properly, hold a good place in the community and do our part as best we can, what difference does it make if we do not leave a fortune? Fortunes are only the ring of a coin. Better have the ring in the heart than in the pocketbook.

"But not every young man could win on the farm," do you say? All right. Neither can all young men make a success of it in the store or elsewhere. It is a great thing to find one's place and fill it. I do not say that every man should be a farmer. But where one feels in his heart of hearts that the farm is the best place for him, then it is his duty to get there. Not to do so is only to sacrifice self for dollars. Good warm blood in the veins will drive a man to do some one thing and to love it above everything else. When he sits down quietly and counts the pulse beats of that blood cours-

ing through his veins, and finds out what they impel him to do, there is nothing he can do but to obey, no matter in what direction the call leads. If to the farm, well and good. If to the bench or the bar, that, too, is all right. But far be it from me to say that a man makes a mistake when he hears the call back to the farm, even if it leads him to lay down a profession that brings in thousands every year. We have only one life to live, and it stands us in hand to make the most of it that we possibly can.

EDGAR L. VINCENT.

AGRICULTURAL NEWS-NOTES

A firm at Pasadena, California, has commenced the manufacture of milk bottles from wood pulp.

The leading strawberry in Douglass County, Oregon, is the Excelsior, which is both early and prolific.

In Maryland and Delaware the Gandy, a late-maturing, prolific strawberry, is classed as the "old reliable."

If all orchardists knew the value of bees, apart from that of producing honey, no orchard would ever be without them.

Ecuador, South America, now furnishes nearly one fifth of the world's production of cocoa, which is estimated at three hundred million pounds.

About one hundred acres of peanuts are now grown in the vicinity of Cleo, Woods County, Oklahoma. One grower has ten acres and expects to harvest five hundred bushels.

An agricultural college has just been established in Hawaii, and Governor Carter hopes to secure as members of the faculty graduates of the State Agricultural College of California.

This is an age when every possible material is used in the arts and manufactures. In the vicinity of Mobile, Alabama, swamp grass is now used in the making of cardboard and paper.

In the subdivision of large farms and the consequent increase in the number of scientifically cultivated small farms lies the best hope for an increase of a vigorous and independent rural population.

Near Los Angeles, California, there is a five-hundred-acre farm devoted to the growing of sweet peas. There are other smaller farms near by. The total annual production of sweet peas in the state is estimated at three hundred and fifty thousand pounds.

One hundred and seventy-eight million pounds of beet sugar were made in Michigan last year. It would take thirty freight trains of more than forty cars each to carry the sugar to market. These cars, if placed in line, would extend about ten miles.

Since the passage of the Pure Food Law there has been a marked increase in the price of canned goods of all kinds. This was to be expected, as the government has demanded a higher standard of quality. This is expected to increase rather than decrease the consumption of these products, in spite of the increased cost to the consumer. *

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There are few young men who could accomplish as much for themselves at home as they can in the Navy. The young man who makes his first visit home on furlough from the Navy can hardly realize that he is the same person who joined the Navy but a short time before. The things he has seen and learned, the training he has received, have probably worked a wonderful improvement in his ability, appearance and value to himself. The



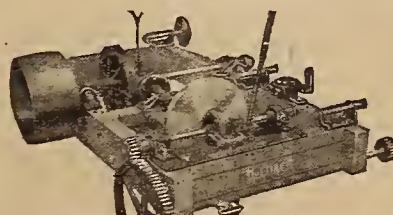
United States Navy

needs a large number of bright young American citizens between the ages of 17 and 35 years. The increasing number of vessels in the Navy gives splendid opportunity for rapid promotion to those who prove efficient.

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Navy Recruiting Stations are located in various cities where candidates may apply in person. If not convenient to Recruiting Stations, full information of how and where to join the Navy can be had by writing.

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Washington, D. C.

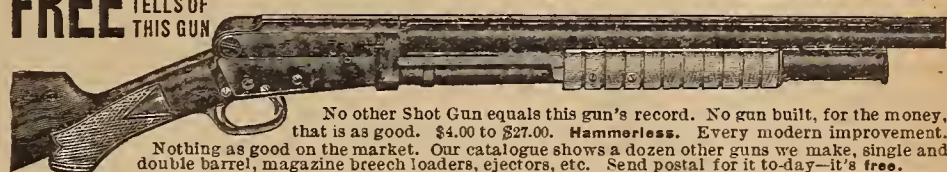
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SCALE

If you will get two of your neighbors who don't take FARM AND FIRESIDE regularly to subscribe at twenty-five cents a year, and you send us the fifty cents, we will send FARM AND FIRESIDE to each a full year and give you a full year without a cent of cost. Three yearly subscriptions in all. That's a good fair offer. Let us hear from you.

FARM AND FIRESIDE, SPRINGFIELD, OHIO

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Suppose the railroads made you a 15 cents per hundred better rate—
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We have prepared at considerable cost the most elaborate book on the Texas Panhandle ever issued. It is finely illustrated and full of facts that are of the biggest importance to you.

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just what is being done in the Panhandle. It will show you that the advantages enumerated are but a few of those the Panhandle has to offer. It gives you the stories of success of practical farmers. It tells how poor men went to the Panhandle and are now independent; how prosperous men went there and are now rich. It deals only in facts and figures and is a mine of information for the men who want to be shown. Let us send you this book at our expense. But write today as the edition is limited.

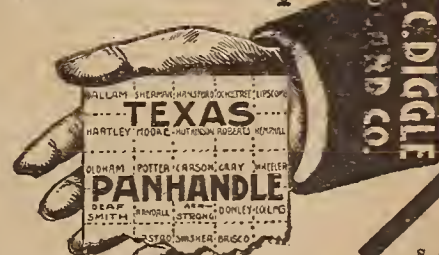
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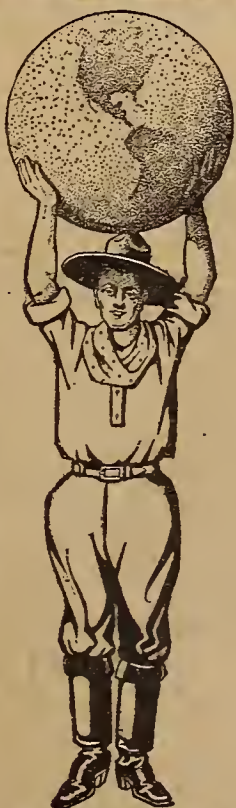
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THE TEXAS FARMER CAN SUPPORT THE WORLD

PONY CONTEST NEWS

Probably there never was a contest conducted by a magazine or paper that has attracted so much attention as the great Four-Pony Contest which FARM AND FIRESIDE has been running for its readers during the past winter. We know that we were very much surprised at the amount of interest shown in the ponies and the great mass of correspondence which the contest stirred up. During the last few days of the contest our entire force was kept busy recording subscriptions and answering inquiries from anxious boys and girls who desired to find out what their chances were for winning "Beauty," "Surprise," "Fuzzy," and the rest. But great as our work was at that time, we were able to handle all of the business and to answer all of the questions in a way that satisfied the thousands of people interested. In fact, the number of complaints from the pony contestants since the contest closed have been extremely low. Not more than one in four hundred had any difficulty about getting the prize that was due them or had any feeling of dissatisfaction concerning the manner in which they have been treated by FARM AND FIRESIDE. The few that did write in were promptly attended to.

Although we did not receive many complaints, we did receive hundreds of letters from very happy, satisfied contestants who want to know if we are ever going to have another contest. So much interest has been shown in this entire matter that it may be well to print one or two of the letters we have received and to answer some of the questions which have been received—questions that may have occurred to others.

One prize winner writes: "I received the writing desk, and many thanks for it. I think it is real nice, but a pony was what I wanted. I see in my last paper you gave only three ponies instead of four, and nothing about the automobile." The reason we gave three ponies instead of four is a very simple one. The winner of the second prize did not wish for a pony, because she already had one, but did want a piano. Now, the piano was one of the first prizes, but in order to be more than square, we gave the piano to the second-prize winner instead of the pony which she won. So you see, instead of giving less than we promised, we really gave more. And as for the automobile, you will remember that the winner of the first prize was to receive either the pony team, "Surprise" and "Beauty," or a piano or an automobile. Now, the first-prize winner preferred to have the pony team in preference to the automobile. That is why no automobile was given away.

Here is another inquiry: "How did it happen that Viva McNutt got the piano and her name is not on the honor roll? Did you give it to her because she is one of the family, or how did it happen?" We have already explained why we gave Miss McNutt the piano instead of the pony which she won.

As for the other two questions, if our inquirer had looked in the March 10th number of FARM AND FIRESIDE, where the first honor roll was published, he would have found that Miss McNutt was one of the very first contestants to get enough subscriptions to be entitled to the honor of being placed before FARM AND FIRESIDE. Moreover, Miss McNutt, who lives in Vandergrift, Pennsylvania, is, as far as we know, not even acquainted with any one working for or interested in FARM AND FIRESIDE, and, for that matter, the same is true of every contestant. This little fourteen-year-old girl won her prize simply because she began early and worked late, and she earned every bit of the glory and the value of being a prize winner.

YOUR SUBSCRIPTION HAS EXPIRED

If there is a blue mark in this circle. Unless you subscribe before September 10th you will not get the next issue of FARM AND FIRESIDE. Send us 50 cents for a three-years subscription, or 25 cents for one year, right away.

FARM AND FIRESIDE
SPRINGFIELD, OHIO

PITHY POINTS FOR PONDERING FARMERS

THE LAY OF THE HEN

"Feed me little, feed me long,
And I'll keep on a-laying on."

Seasonable "truck" spells success.

A good word is better told late than never.

The proof of the crop is in the garnering.

A dog is the best servant to announce visitors.

Hide not your bad fruit near the bottom of the bushel.

When your neighbor loses heart, help him to find it again.

Never permit any man to run over you. Stay out of his way.

No man's credit is so good but that his cash is just a little better.

Let plenty of sunshine into your poultry house, and healthy chickens will come out of it.

The happy farmer so advertises farm life, and so pays for farm service, that some laboring men in town will not be happy until they get into farm life.

If you are blessed with the best drinking water in your neighborhood, make everybody feel that he is welcome to drop in for all he can hold every time he passes.

You can do so much for your county that those of its inhabitants who have not met you personally would rather make your acquaintance than that of the President of the United States.

If you want to get a glimpse of happiness and contentment in good running order, visit a farm located on a rural delivery route, connected with a rural telephone system, surrounded by a garden and orchard producing all the fruit the heart may desire, and which has a house containing boys and girls, music and books, and culture and refinement. W. J. B.

THE FARMER IS GETTING THERE

The American farmer is rapidly becoming the thinking one. He has formed an alliance with science, and progress is the result. "Forward and upward" is his motto. He is destined to lead where he has heretofore been content as a follower. He is likely to become an important factor in shaping the future welfare of our country. He is the champion of the world's leading industry. Agriculture is the great basic industry of America and the world. The representative farmer of to-day is becoming as well qualified as a legislator in the halls of Congress as the lawyer who has heretofore aspired to frame laws for the better government of the masses. The farmer is getting there—"on the double quick."

The demand for beeswax is likely to be much greater than heretofore. This is one of the results of the Pure Food Law, which requires that beeswax be used as formerly by druggists and candy manufacturers instead of paraffin, ceresin or other substitutes for beeswax. *

CUTTING EXPENSES

Is it always wise to try to cut down expenses? Surely we ought not to go to extremes, but it is hard to determine just where to draw the line. For instance, should I buy seed potatoes, grain, or eggs for hatching at fancy prices? Shall I pay my neighbor five or ten dollars for a calf to raise? Shall I take another farm paper?

Of course each one must decide for himself, but I would say that the farmer who feels that he cannot afford to do such things as these is quite likely to always feel the same way. Would it not be better to regard these things as an investment rather than an expense, then invest our money where there are fair returns and beware of the get-rich-quick schemes?

STUDENTS' REUNION

On Thursday, September 5th, between the hours of 9 and 11 A. M., the students belonging to the Winter Course Association of the Ohio State University will hold a reunion in the Grange Building on the State Fair Grounds.

Members of the class from the different parts of the state will give short talks as to the value of last term's instructions and what they may wish to have included in the coming term. And if possible at that time, Dean Price will give some plans for the coming short term.

All persons interested in agriculture or agricultural education are cordially invited to be present.

ROBT E. BUNGER, President.



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Write—investigate at once. Let us send you our FREE book, with terms and prices per acre. This land—500,000 Acres in the very "Heart of the Famous Saskatchewan Wheat Belt"—has advanced in demand values from \$3 per acre to \$15 and \$20 the past 2 or 3 years. Our present low prices are for rich, clear, watered quarter sections, well settled, well known, easy to reach, easy to work, easy wheat, barley and oat crops; easy markets, big spot-cash prices paid for your finest A-1 wheat. Climate healthful; neighbors mostly Americans—some Germans and Swedes. Our Free Book shows you all about the many.

Railroads, Water, Schools, Churches, Etc.

Read also in our Free Book what many happy settlers from U.S. say in letters from Lipton, Strassburg, The Elbow, Davidson, Blaine Lake, Humboldt, Vonda, etc. all up in this district. We can't begin to tell you the whole story here, so WRITE NOW for Our Free Book. Tells you how we give you Guaranteed Title direct from Canadian Government. Tells why you need not go to a "wilderness" for "homestead" 60 miles from a railroad, because this way is cheaper and pays you from start. You are absolutely protected and safe in dealing with this company. We have a capital of \$5,000,000 and are well known. Ask any Winnipeg or Canadian Bank. Write at once for our Free Book which tells you all about this land and who's there, and about us. Do it today. Address—

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Purity Guaranteed. Freight Prepaid.

I am the Paintman.
I make Paint to order—for the individual user.

I sell it direct from factory—at factory prices.

I ship it in special extra size cans—guaranteed to contain full measure of paint.

These cans are dated the day the paint is made—your guarantee that it is absolutely fresh when you get it.

Out of any six-gallon order or over you may use 2 gallons on your buildings.

Then stand off and look at it—test it in any way you like.

If it is satisfactory—use the balance.

If it is not satisfactory—return the balance—I'll refund all of your money—pay the transportation charges both ways—and the test shan't cost you a penny.

That's my way of selling my Made-to-Order Paint.

I'm the only paintmaker in the United States selling it that way.

I'm the only paintmaker in the United States making paint to order.

My paint will please you—it's got to please you. You are the judge—and if it doesn't it shan't cost you anything.

There's no question about the purity of my paint—no question about its high quality. There can't be—because it's made from the pure materials—the best it is possible to buy.

My O. L. Chase Strictly Pure White Lead Paint—The Roll of Honor Brand—an all white Lead paint—is made from strictly pure Old

Dutch Process White Lead—strictly pure, well settled, aged, raw Linseed Oil made from Northern grown selected flax seed—pure Spirits of Turpentine and pure Turpentine Drier and the necessary tinting colors and nothing else.

This paint stands the tests of any chemist—this I guarantee under \$100.00 cash forfeit.

I will give that sum of money to any chemist who will find any adulteration in this paint.

It's just what it's name implies—the Roll of Honor Brand.

It meets all of the requirements of the State Pure Paint Laws and more.

I challenge the world on this Roll of Honor Brand—and as I make it to order for each individual user—ship it fresh as soon as made that you may get all of its life right on your buildings—it's assuredly the best paint in the world to buy.

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When you've read these books I'm sure you will be convinced that it will be more economy—and more satisfaction—for you to let me make your paint to order, than to buy paint of any other kind—made in any other way. Write for these Books at once—today.

O. L. CHASE, The Paintman, Dept. 19, St. Louis, Mo.

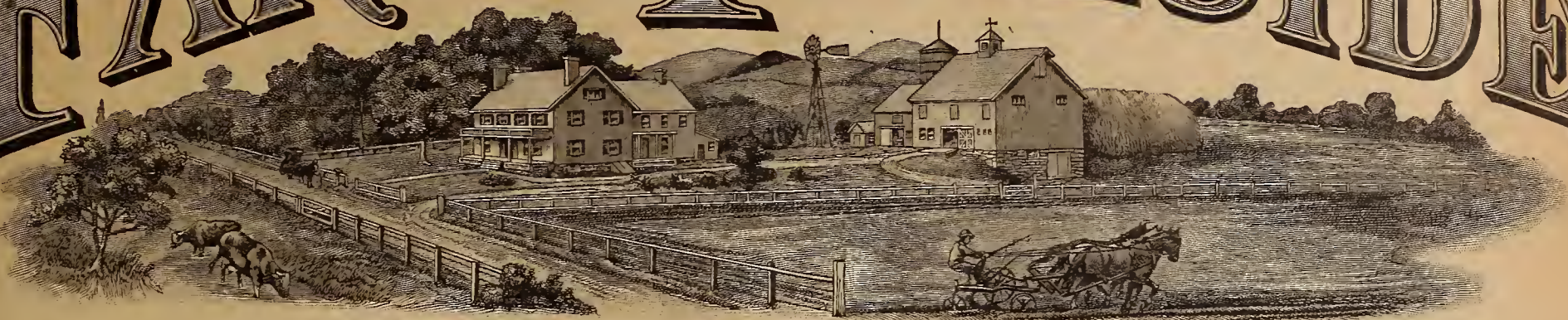
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FARM AND FIRESIDE



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WESTERN EDITION

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TERMS { 25 CENTS A YEAR
24 NUMBERS

Harvesting and Storing Seed Corn

By Prof. G. I. Christie of the Indiana Experiment Station

EACH year corn growers are coming to appreciate more and more the importance and value of early field selection and the proper storing of seed corn. Upon this work depends in a large measure the yield and quality of the corn grown. With care and attention to these points improvement in the varieties can be readily made, and loss from low vitality in the seed is largely avoided.

TIME TO GATHER SEED CORN

The time to gather seed corn is after the corn is mature and before the general harvest. This should not be later than about October 15th.

As a general thing, corn intended for seed should not be picked before it is mature. Corn gathered before it is well matured is difficult to preserve, due to the excess of moisture contained. If picked from year to year before it is matured, the corn tends to become earlier, thereby decreasing the yield.

The practise of selecting the seed corn at the time of general harvest is objectionable, for the reason that the vitality of the corn is often injured by frosts before being gathered.

Where the crop is used for silage purposes or is cut and shocked in the early season, a strip from which seed corn can be selected should be left until the corn is thoroughly matured, so the seed ears may be selected from the standing stalk.

HOW TO SELECT SEED CORN

Seed corn should be selected from the standing stalk in the field. Here the mother stalk and the position of the ear on the stalk can be studied. This is important, because the characteristics of the plant and ear are directly reproduced through the seed. For instance, if an ear held high on a stalk is used for seed, sixty to eighty per cent of the ears produced will be found to be held in a similar position. Seed selected from broken or diseased stalks produces plants which are weak and susceptible to infection. Experiments along these lines show that through selection of the ears from the stalks much can be done to fix desired characteristics in the stalks or ears.

With a basket on the arm or a sack over the shoulder go into the seed-corn patch, if one has been planted, or into the best parts of the general field, and gather the ears for seed. These ears should be selected from only strong, vigorous-looking stalks with a large leaf development. The stalk should be of medium size, strong at the base and tapering gradually to the tassel, with twelve to fourteen leaves. It should stand up well and be free from smut and other diseases.

The position of the ear on the stalk is an important point. Ears held on the stalk at a point four to five feet from the ground are more easily gathered and have been found to give larger yields than ears held six or seven feet from the ground. Ears held in an upright position by a strong, coarse shank are objection-



A GOOD WAY TO DRY SEED CORN

able, for the reason that the rains run inside the husk and about the ear and cause the kernels to mold or germinate. Ears held by a shank of extreme length should be avoided, as they will likely show coarseness and a lack of breeding. The most desirable ears are those held at a point four or five feet from the ground by a shank medium in length and strength. They should point downward and have the husks loose about them, to allow a free circulation of air. However, only those ears that are strong and well developed, with straight rows of regular-

sized kernels which are rather deeply dented, should be selected. Much can be done to maintain the depth of kernel and strength of ear in a variety if the seed ears selected are a little rougher than the average of the crop.

DRYING AND STORING SEED CORN

After the seed corn is selected from the field it is important that it should be properly dried and stored. Corn as it comes from the field contains a high per cent of moisture. If this moisture is not rapidly removed, injury from molding,

fermenting, growing or freezing may result. Because of this fact the first month after corn is selected from the field is the most critical time in the handling of seed corn.

Seed corn should be stored in a dry, well-ventilated place as soon as gathered, and in such a way that each ear will be exposed to a free circulation of air. It should never be stored in sacks, boxes or barrels, or in piles on the floor, for here the corn is almost sure to mold or ferment and lose its vitality. Neither should it be stored over large quantities of small grain or over stables occupied by animals, for from the grain and stables moisture is constantly given off. The corn absorbs this moisture and is injured by mold or frost. In some cases corn has been successfully stored in the cellar under the house, but few cellars are dry enough for this purpose. The attic or an empty room in the house make desirable places in which to store seed corn. If the corn is thoroughly matured and well dried before the freezing weather comes it may be stored in the barn or crib. Wherever the corn is stored, it should either be hung up or placed in drying racks. In this way it will dry out readily and will be free from danger of freezing. Corn that is thoroughly dry will not be injured by freezing.

When the amount of corn to be stored is small it should be hung up. This can be readily accomplished by tying the ears together in pairs, the husks being left attached for that purpose, and hanging them over a wire fastened to the beams or rafters. Another way is to tie ten or a dozen ears in a string with binder twine, and hang the strings on wire or nails. A common practise is to place the ears on end on nails driven in a slightly upright position through a board and far enough apart so that the ears do not touch each other. These boards are hung to the ceiling or roof.

If the amount of corn saved for seed is large it is advisable to have a special seed house. This should be so situated that the air may circulate freely about it. The sides should be provided with plenty of windows and doors which may be opened and closed at will. The house should be provided with suitable and convenient racks for storing corn. These racks may be made by using boards six inches wide for standards, set the length of a plastering lath apart. To both edges of these boards nail the lath just far enough apart to accommodate one row of corn. Sufficient space should be left between the racks for a man to pass. The use of a stove or other artificial heat in the seed house has not in a general way proved successful. The corn is often overheated while still moist, and germination results. Where a thorough circulation of air is had some heat to dry the atmosphere can be used to good advantage. However, if there is time for natural drying of the corn before the freezing weather, it is safest and most desirable.



SELECTING SEED CORN IN THE FIELD

SCHOOL AND AGRICULTURE

In his speech at the Michigan Agricultural College, President Roosevelt said: "Too often our schools train away from the shop and the forge; and this fact, together with the abandonment of the old apprentice system, has resulted in such an absence of facilities for providing trained journeymen that in many of our trades almost all the recruits among the workmen are foreigners. Surely this means that there must be some systematic method provided for training men in the trades, and that this must be co-ordinated with the public-school system. No industrial school can turn out a finished journeyman; but it can furnish the material out of which a finished journeyman can be made."

When speaking of the kind of training that is needed, he says: "To train boys and girls in merely literary accomplishments to the total exclusion of industrial, manual and technical training tends to unfit them for industrial work, and in real life most work is industrial."

The mere fact that most of our farm boys and girls who are to remain on the farm leave the school just as soon as the law allows them to, and take up the practical work of the farm, seems to show that the school does not offer them the training that appears to their parents to be of value to their calling and to their future work. The school seems to train the boy away from the farm, and the parent has no other means of checking this (to him) undesirable tendency but to take him out of school in time.

Industrial manual or technical training does not necessarily mean training in any special profession, whether it be blacksmithing, watch making or farming. It should mean practical training to the extent of laying the foundation upon which each one for himself can build up his own education in his own particular line or chosen field.

Every boy in these times, to make a useful man and worker, needs a working knowledge of the common laws of Nature—gravitation, velocity, magnetism, electricity, hydraulics, etc., as well as of the first principles of chemistry. The common schools should give him the chance to acquire it. We do not expect the rural schools to turn out finished farmers, but to turn out the material from which finished farmers can be made, or, rather, to put the boys turned out in the way of making practical and "finished" farmers of themselves.

BIRD FRIENDS

A few days ago I was looking out of my window at the tomato plants in the garden, when a female redbird alighted on one of them. She began to look closely among the branches, and presently hopped down and began tugging away at some object. In a few moments she jerked a big green tomato worm loose from the plant and flew away with him. While I was awaiting her reappearance, a saucy-looking blue jay dropped on the same plant, hopped down among the foliage, and in a moment came up with another green worm almost as large as my little finger, and flew away. A few minutes afterward the female redbird came back and soon found another worm and carried it away. I have seen them carefully looking the plants over since that time, but they seem to have gathered all the worms, for I note they do not find any. To-day I see they are dancing about on the cabbages, and a little yellowbird with them, picking off the worms and carrying them away to their nestlings. This is the first season I have seen any bird tackle the tomato worm, but I have often seen yellowbirds and English sparrows gathering cabbage worms. The sparrow does not seem to eat them itself, but gathers them for its young. Possibly it does eat a good many of them unnoticed, but it is very active in seeking for them when it has a nestful of young ones. It is not a difficult matter to find and destroy the tomato worm, but I have had lots of trouble with cabbage worms, and often had the finest heads ruined by them. If these birds are going to help me fight these pests I shall be mightily pleased, and Mr. Blue Jay may pick holes in some of my apples and fill himself up to the beak with my chicken feed if he wants to.

FOR LAWN TREES

Innumerable are the things suitable for fine single specimens on a lawn. We have the Colorado blue spruce as one of the finest of evergreens. It varies considerably in the shade of blue, from a light silvery hue to a dark blue, and is of strong, sturdy, upright growth, and when well grown and perfect is a striking object on any lawn or in any landscape.

My favorite for a single tree on the lawn is a white fir. Large specimens are rather rare as yet in the East, and one of them on one's lawn is an object of which any one can be proud. It is a reasonably

quick grower, and reaches very large size. Words fail me to tell of the beauty of the specimens on one lawn.

Among the deciduous trees we have the catalpa. It is a quick grower and quite ornamental, especially beautiful during July, when in flower. Then there is the purple-leaved maple, and purple-leaved beech, and the purple-leaved plum, although the latter is best suited for planting in groups. Many others might be named, as the weeping mulberry, the Japan lilac, or even the trumpet flower trained as a standard. Any of these may be planted singly on the lawn, and will be sure to become an object of attraction and admiration.

WHAT IS NEEDED

The following is from a letter written by E. N. P., of San Joaquin County, California: "I want a little information. In one of the July issues we read of superphosphate, land plaster, floats, etc. You people in the Eastern states, I presume, understand those chemical terms, but most of the farmers of California do not; but they will be obliged to learn their meaning in the near future, as the soil is beginning to call for special treatment for diversified farming. Where can I get such literature as will enlighten us on farm chemistry? Such subjects should be talked over in the Grange and other farmers' organizations."

The great majority of the farmers all

as a knowledge of their various terms and their meaning relating to the details of his profession is to the painter, or to the mechanic, or to the engineer, or to the physician or druggist. Successful farming in our days requires as much knowledge and study as any profession we might name.

A farmer may be able to raise large crops for many years without resorting to the use of concentrated chemical plant food or other purchased manures. Yet he may come into the situation at almost any time when he may find it advisable to buy and use such things as superphosphate, or floats, or nitrate of soda, or muriate of potash, or wood ashes, or even common stable manures. How can he hope to know what he is buying, and how to use what he does buy to best advantage, if he does not exactly know its true nature, qualities and values? And at these times, when labor is high priced and scarce, we cannot well afford to grow average or below-average crops. In order to make the most of the investment in labor we should try to raise the maximum crops, and to put all the plant foods within reach of our plants which they may need to produce big yields. In whatever light we may look at the question, the need of full information on these points of the so-called "chemistry" of plant foods and plant feeding stands out in full and bold relief. It is now the question of all questions, the corner stone of success.

But where is this information to be obtained? The foundation should be laid

trates," and others so often mentioned in our times at farmers' meetings; and he will be able to read with profit any of the various books on popular farm chemistry, or the articles that deal with modern methods of using plant foods, whether in the form of farm manures or concentrated commercial fertilizers. There is, however, need of a modern text book on the subject of the chemistry of manures for school uses and home study, such book as I once tried to supply in "Practical Farm Chemistry," now somewhat out of date, and which was intended to supply just such training or study to the young farmer, which is now being withheld, wrongfully and unwisely, I believe, from the school boy of more advanced age.

T. GREINER.

THE ADVANTAGE OF THE FORTY-ACRE THOROUGH FARMER

There are two classes of farmers that seem to experience little trouble with the hired-help question. One is the large farmer who keeps eight or twenty men, and the other is the one whose farm is so small that he does not have to keep any help at all. Where only one or two men are kept, they get "lonesome" and restless, and the first thing one knows they have to go to see a doctor, then that they have decided to lay off a week or two, which simply means that they have quit. I know farmers that are good men to work for who have had so many men to leave them in the midst of the crop-making season that they have put most of their farms in grass pasture and are cropping only as much as they can attend to without help.

With the latest-improved farming implements one man can, if he is fairly skilled in the use and care of machinery, do fully as much as three men formerly did, and do it better. And the wages he will have to pay a hand, together with his board, will buy a first-class outfit in one season. The skilled farmer of to-day looks more like a machinist than a farmer. His hands are not hard and knotted, like those of the old-time farmer, and generally we find him clean shaven, his hair properly trimmed, and a prosperous, business air about him. Often he is running the farm without help, and making money at it. Nine out of ten of these farmers would hire help if they could get any that is worth the cost. But as that sort of help is hard to obtain they are doing the work themselves with machinery.

The farmer who is not prosperous to-day is he who is only half farming more land than he can handle. He is growing half crops instead of full ones, and working like a slave to do it. His expenses eat up all of his profits, and he comes to the end of the year as poor as he began it, and feeling that he has been miserably out of luck. To be successful at farming a man must do some keen thinking, and if he is worked to the limit he can't think. One must have time to look about and plan. Then it will do him no good to plan unless he successfully works them out. If he half does things because of lack of time to do them thoroughly, or because he has so many to do, he is bound to make a miserable fizzle of his farming, and his profits will be so small that he will be unable to find them.

I would suggest to farmers who have not met with the success they expected or hoped for this year, that right now is a good time to formulate better plans for another year. Don't wait until the planting season is here before getting at it. It is not likely that hands will be more plentiful next year than they are this, so if you are trying to farm more land than you can farm thoroughly, get some of it into grass, or let some one who can farm it right have part of it. I am satisfied that the farmer who is in debt and trying hard to get out makes a big mistake in tackling more land than he can till right under ordinary conditions. It means unceasing hard labor through the whole season, and very often unsatisfactory results. I know men who are farming only forty acres who are making more money than others that are farming quarter sections. The quarter-section men are doing a good deal of business and making the most noise, but the forty-acre chap has the most cash in his pocket at the finish, because his expenses have been next to nothing, and he has his receipts.

The entire country would be much benefited if we had more forty-acre thorough farmers and less quarter and half section common farmers. F. G.

The object of the recently formed "Minnesota Co-operative Dairies Association" is to combine the producing and distributing features of the butter trade in that state. Ninety-five per cent of the proceeds is to be returned to the producer, and the remaining five per cent is to be used for the running expenses of the association. A guaranteed bond should be required of each manager at the distributing points. It is the only safe way to conduct a co-operative business.



AN INEXPENSIVE SEED-CORN RACK MADE OF SIX-INCH FENCE BOARDS AND PLASTERING LATH

over the country, and even some of the more progressive ones, have but a vague conception of the true meaning of the quoted terms and of similar ones. I would hardly class them as "chemical" terms in this connection. They are professionally agricultural terms which he who by profession is a farmer should and must know if he desires to live up to and make the most of his opportunities. A correct knowledge of them is as necessary to him,

in the common school education. After the boy of twelve or fourteen has learned the very rudiments of chemistry and physics—the nature of the few elements that come in consideration, of nitrogen and oxygen, hydrogen, carbon, sulphur and a few others, and their most common compounds and combinations—then he will be in a position to understand or secure such understanding of the meaning of such terms as "superphosphate," "ni-



A SATISFACTORY WAY OF DRYING SEED CORN

HOLDING WHEAT AND CORN FOR HIGHER PRICES

NOTICE a number of farm papers, among them some of the most conservative, are having fits over the differences in the price of wheat and corn right after harvest, when the grain is about all in the hands of the farmers, and in the spring and early summer, when the greater part of it is in the channels of trade, or has been ground to flour and meal. There is no sense in these tirades. These papers are giving the farmer a puff of hot air, because they imagine it will convince him that they are looking out for his interests. When wheat is thrashed right after harvest it is in no condition for shipping, storing or grinding, and those who buy it must keep it moving or it will heat and mold. To keep it moving in the elevators costs money, and this must be taken into consideration when the grain is bought. After it is dried—cured—it can be kept in bulk without much expense, and naturally it is worth more money, and the price rises. Farmers who are fixed to hold their wheat in good condition until the following spring or summer can obtain this advance in price. If the season is favorable for the growing crop there is apt to be only sufficient rise in the price to cover cost of handling and storing the early marketed wheat. But if a crop scare of any sort should bob up, the price will advance, as it did this year, when the green bug attacked the crop in the Southwest. A farmer told me a few days ago that he had held his wheat and corn over for the summer market twelve years in succession, and kept close tab on increased price received, loss by shrinkage, animals and insects, and he had finally decided he would hereafter sell his wheat as soon as he could get it thrashed, and his corn while he was husking it, or immediately after, and let the other fellow have the advance for the risk of holding. He said twelve years of close watching the ups and downs of the markets had satisfied him that supply and demand entirely governed prices of real grain, and that it is better for him to get the price in his pocket as soon as possible after the crop is gathered. Farmers should look into this matter closely. FRED GRUNDY.

SPRING AND FALL RYE

I have learned a trick worth knowing: the way to get two crops from one sowing. Sow a bushel of spring rye and a bushel of fall rye mixed, in the spring.

Cut the spring rye for hay, and pasture the fall rye in the fall, and the next season there should be a good crop to cut for hay or grain, or to let the hogs harvest, which is a good plan. I have found they will eat the heads off even after the first snow comes, and will do well, and the next spring, if there are any heads left, they will clean them up before time to plow. H. F. BRIGGS, Oregon.

SWEET POTATOES AND COW PEAS

The farmers of the country are beginning to realize that cow peas and sweet potatoes are two of the greatest crops that can be grown at present. From inquiries that I have received, and the general trend of farming operations, I am thoroughly convinced that these crops are the future crops of the country in their respective classes. There is no other root crop that equals sweet potatoes, and the improvement and introduction of new varieties will enable farmers all over the country to grow them to a great advantage. Like most all other crops, the sweet potato has undergone an evolution in the last ten years.

The improvements which have been made embrace nearly every feature imaginable, and in nearly every instance the result has been beneficial. The vineless yam has found great favor, because it is but little trouble to cultivate, on account of its upright, bush-like growth, but even the most heavy vine-producing varieties are now sought by many farmers. The vines are raked off the patch at digging time and stacked on poles without any curing process whatever, and the cattle of the farm eat up every one of them. I can remember some ten years ago they were left on the ground at the end of the rows to rot.

Now the tons and tons of them that can be produced on an ordinary potato patch have a great value. The best way to save them for cattle feed is to have a pole stretched along about like a fence, and throw the vines over them. The cattle will eat up every vestige of them within a month after they are gathered. The frost will not destroy their value, and instead of being troublesome, they are now considered very valuable. Where the pole is not easily obtainable, of course they may be thrown over the fence. There is practically no trouble in them heating, or spoiling, and years of practical experience has demonstrated the fact that there is no danger in feeding them to cattle in any quantities.

When this is added to the great value of the potato crop it makes it one of the very best things to cultivate. At this season of the year the question of keeping them through the winter is one which is usually uppermost in the queries received, but it is an easy matter if the work is started right. They should be dug when the soil is in order, and stored in a potato house or cellar, like Irish potatoes. Where these conveniences are not found, it is an easy matter to save them by hilling them up in the open. This is done by preparing a place on an elevated piece of ground, putting straw down for a bed, and heaping the potatoes up in a circular hill. After this is completed, cover the heap with straw and boards or corn stalks, then cover with dirt to a sufficient depth to keep from freezing. Be sure to leave the top of the hill open, so as to allow for ventilation, but cover so as to prevent rain from falling in on the potatoes.

Regarding the cow pea situation at this time, the curing of hay is the supreme idea to be kept in view, unless the saving of seed now supersedes this feature, owing to the scarcity and high price of the seed. Saving the hay is comparatively easy in ordinary instances, but in rainy weather, however, it is another question. Still it is not much more so than with most any other hay. After the hay has had a day's sun it is ready to rake up in rows, and there it should be allowed to stand a day or two then hauled to the hay shed or barn and stacked where it could be thrown under shelter within a few days. It may seem at times as though it were too hot, but if it is stirred about somewhat after the method given, there is but little danger of it spoiling, and even moderate rains will not damage it.

At this season it is quite as important that farmers give attention to the saving of seed as well as hay. Heretofore it has been quite an easy matter to obtain seed, but with the general recognized value of the cow pea to-day it is a hard task to get seed, and I know plenty of farmers right here in the cow pea belt who have had trouble in getting seed to plant. The great demand for hay and the scarcity of labor to gather the seed has been the main cause, but a different plan will have to be pursued hereafter. A few peas can be picked for seed before the hay is cut, if absolutely necessary to save your own hay and make seed, but it is best to cut when the first ones begin to turn ripe, so that the vines will not be the least bit hard and dry with age.

J. C. MCAULIFFE.

WINTER OATS

Last October I sowed three acres of winter oats. They were drilled in with a wheat drill without any fertilizer. The drill was set for one and one half bushels to the acre, but I did not get much over a

bushel to the acre. I had planned to sow two acres more, but it was so late that I feared they would freeze out, so the two acres were left until February.

The winter proved favorable for the oats, and I don't think any of them heaved out by freezing. May was very unfavorable, as we had a drought that cut grass and spring-sown oats short, but the winter-sown oats showed but little damage from the drought, while the two acres sown in February standing by the side of the winter-sown oats are very thin and short. The fall-sown oats are tall and well filled. Some of them are from four to five feet high. They are beginning to ripen at this writing, June 28th.

Earlier sowing makes a surer crop—August 20th is not too early—but wherever winter oats can stand the winter, they are a much surer crop than any of the spring varieties. They are almost sure to fill well here, which is not the case with spring varieties.

I tried a small plot of Appler oats two years ago, but they did not do so well for me as the Virginia Gray or Turf oats. When sown early on good soil the Turf oats will make considerable winter pasture for sheep and calves. They will grow reasonably tall on thin land and produce heavy grain. A. J. LEGG.

GETTING THE FODDER IN THE SHOCK

"Got your corn cut?"

"It needs about two weeks of good weather yet to ripen it up. I suppose you have yours all in the shock by this time?"

This last was in the form of a question, and I listened for the answer, for I knew those men lived in the same neighborhood, so it might have been supposed that they would have corn to cut at about the same time, ordinarily speaking. The reply gave me a clue to the character of the two men.

"Mine is all cut. You know I got mine in a little earlier than you did—happened to. And then I like to get mine out of the way before it is really hard. When it begins to get glazed is time enough for me."

I was down that way two weeks later, and was interested to see that the corn of the man that liked to have it stand a bit later had all been nicely cut; but the trouble was that old Jack Frost had wielded the sickle, and when he was through there was very little good corn fodder left in the field. It was all white, dead and juiceless. Did that pay? What do you think about it?

Well, there are the two men, in sharp contrast. The one had been on time all the way through, and his corn had been saved in good condition, while the other had been a little later, with the result that cold weather had robbed him of a share,

and a good share, too, of the value of his corn fodder.

Having a little time, I stopped and talked with the man who had been on time. He gave me a few good points about getting corn into the shock.

"You see, my corn is what we call State corn here. That is, it is the common eight-rowed Flint. That is what I like to grow for home use. It yields well, ripens as early as any, and makes good meal. Our seasons are pretty short late years; seems as if they are more so than they used to be. Perhaps this may be one of my notions, however. At any rate, I like to cut corn early. Then, you see, it hardens up all right and the stalks are certainly a great deal better for feed. I would not give much for dry, hard corn stalks for fodder myself. You take corn that is cut just as the kernels get fairly glazed and every bit of it will be plenty hard enough by the time it has stood in the shock a few weeks, while the fodder itself will be full of the sweet juices that cows like so well and that helps them to give good milk."

I asked, "Do you use a corn harvester in cutting?"

With a smile he said, "I tried that some years ago. I have always planted pumpkins among my corn. Maybe that is old-fashioned, but it is the way I have done. We put a harvester into one piece. The man that did the work thought that it would not hinder the matter much to have the vines running through the corn; but that field was a sight to behold, after the machine had been through it! The bundles were scattered about in every direction. Smashed pumpkins and tangled vines had been bound in with the stalks, and altogether it was the worst-looking mess I ever saw. We tried laying the vines over out of the way of the harvester, but that was a big job, and we never tried it again. The harvester works all right in the regular fodder corn, where there are no vines and you do not husk the corn."

"So you cut with the old-fashioned corn knife?"

"That way suits me best. Of course, if you have a great big field, such as they raise out West, the better way would be to go through the rows and pick the ears and then cut the stalks some other way; but for the man that has only a few acres the old way is all right."

"Sixteen hills to the shock?"

"Sixteen are enough. Then if the stalks are large you will find the shocks quite heavy to lift to a wagon. Two men can do it, though. We cut eight hills nearest to the shock, tie them, then cut as many more and bind with twine corn ties. They are handy things. Have you ever used any? Try them. They save a lot of time and do not break like the common band."

It did me good to know how this man did his work. Somehow I did not stop at the other man's farm—that is, I did not intend to; but he was out near the road, and called over to me. But what is there in the tone of some men that makes one feel as if the world is not such a dreadful good place to live in, after all? I tell you, a good many things are catching besides the measles; one of them is the blues. It takes a pretty strong man to talk long with a neighbor that has the blues and not himself go on with a touch of the "janders." The words, the look on the face, tone, the very attitude, tell wonderfully.

And that man was down in the dumps. His corn had been the one thing he had been doting on; he needed it to help him through the winter; and now it had been cut down by the frost. The Lord was surely against him! What a hard-hearted being he is, anyway! And yet those fields of corn were just over the fence from each other. EDGAR L. VINCENT.

SELECTING SEED CORN

I have selected my corn in the following way for the past three years, and at planting time my corn has tested ninety-three to ninety-five per cent:

I go into the field between September 15th and 20th and select the early ripe ears, tie them together, and hang them overhead in the driveway of a double crib.

This corn is so dry by the time the first frosts come that it is not hurt, and comes out in the spring as hard and dry as a piece of flint.

There is one other advantage in this early selection: you can select the type that you care for most, and you will in a few years have an earlier maturing corn. W. B. ELLSWORTH.

Co-operation among farmers in Holland is universal. Usually each "bund," or society, numbers from twenty-five to fifty individuals. A purchasing and selling agent represents each bund, so the best prices are obtained in the best-paying markets, and all goods, farm and household supplies are obtained at wholesale prices without the intervention of middlemen. *



Stalk No. 1 is a good one and bears its ear in proper position. Stalk No. 2 shows an ear shank too long and coarse. Stalk No. 3 holds the ear too high up and too upright. Stalk No. 4 has a number of large suckers.

GOOD FARMING

There is a growing demand for better farmers, especially in sections where land is selling around the one-hundred-dollar mark and the fertility of the soil is generally being reduced by continued cropping. Good farming is a broad subject and includes good men as well as up-to-date methods of managing the soil, the crops, the live stock, rotation, feeds, feeding, farm implements, etc. The farmer who has an education and has been taught to think as well as to work is quite sure to succeed where his less fortunate friends, who do things after a hit-or-miss fashion, might fail. The careful observer will profit by the success and failures of his neighbors. Their methods of good farming will be accepted and introduced on his premises while the bad ones will be avoided.

The reading of a number of practical farm journals will do much toward encouraging better methods of managing the land and stock. The subscription price of a dozen agricultural papers may be saved by reading a single article and profiting by its suggestions. The writer can refer to facts taken from a practical writer in a farm paper that have been worth the price of a good horse, which represents a nice bunch of money these times.

Good as well as profitable farming also depends very largely to-day on the use of strictly up-to-date agricultural implements. Hired help is not at all dependable, and the wages demanded are almost prohibitive of profits to the average farmer. Labor-saving implements that can be propelled with horse power, gas engines or steam will save many days of expensive manual labor on almost any farm every year. A renter on one of the Bush farms recently said he could not afford to pay a hired man thirty dollars a month to turn the crank on a cream separator, when a sheep in a twenty-dollar tread power could do the work as well as a man. The sheep and tread power have been installed, which results in the saving of nearly one hour a day to the man who turned the crank. We refer to this as an example of what a small investment of money in a labor-saving implement may do in saving manual labor on the farm. We regard such changes in methods as evidences of good farming.

A systematic rotation of grains, grasses, pastures, etc., is a most important item in good farming. Lands that were rapidly losing their productiveness under a one-crop system are becoming more and more fertile where live stock is introduced on the premises and the crops of grain, grass and hay are consumed on the farm. This is good farming. The man who very carefully plans and tills his fields preparatory to sowing or planting the seed may largely increase the yield and at the same time improve the general physical condition of the soil.

When the country was new the land would produce bountifully in spite of abuse and neglect, but time and annual drafts on the fertility of the soil have greatly changed conditions—good farming must be practised or anticipated profits will develop as an actual loss at the end of the year.—Northwestern Agriculturist.

TEACHING AGRICULTURE IN THE COMMON SCHOOLS

The teaching of agriculture in the common schools is a growing practise. A few years ago it was unusual to find any subject relating to farming in the programs of public school-teachers' meetings. Now scarcely an educational meeting of any importance is held anywhere without some discussion of the subject; in some instances whole sessions are devoted to this idea. Farmers' organizations have also grown interested in the subject. Steady progress is also being made in securing legislation favorable to the teaching of agriculture in public schools, the laws or regulations of over thirty states permitting or requiring such instruction, including Massachusetts, Maine, Michigan, Wisconsin, Ohio, Minnesota, Illinois, Nebraska, Missouri and New York. Already under state laws there are agricultural high schools in Alabama, California, Wisconsin and Minnesota. In Illinois a detailed course of agricultural instruction is being used not only in the state, but by several other states. New England has been aroused by the report of a commission, presided over by Hon. Carroll D. Wright, former commissioner of labor. In Minnesota a bulletin prepared by Professor Hayes, now assistant Secretary of Agriculture, has been widely used in the public schools of that and other states. It contains a large number of practical and illustrative exercises for use in agricultural instruction.

"The demand for text books and manuals on agriculture adapted to school use is steadily growing," says Dr. A. C. True, director of the office of experi-

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ment stations of the department, in a well-considered article in the forthcoming yearbook. "Realizing that a vital point in the teaching of agriculture in our public schools is the training of teachers on the subject, the friends of this movement are now making active efforts to establish agricultural courses for teachers in our colleges and normal schools. Progress along these lines has already been made in many of the states. In Missouri alone agriculture is being taught in two hundred high schools and elementary agriculture in three thousand schools."—Guy E. Mitchell in The American Cultivator.

ESSENTIALS OF A PERFECT APPLE

The qualities now in demand for an ideal or perfect apple, not including productiveness of tree, may be summarized as follows:

1. a bright color; 2. a good shape; 3. a moderate and uniform size; 4. a richness; 5. a spicy flavor; 6. a smooth, thin skin; 7. a firm, melting flesh; 8. a small core and few seeds; 9. good cooking qualities; and 10. good keeping qualities.

With our present standard of taste in color a bright red seems to be the favorite, and there is no reason why our ideal apple should not conform to this demand. In all markets red apples sell better than those highly colored.

Form is one of the most permanent characteristics of the apple, forming one of the most distinguishing features of a variety. All things considered, the round or globular form is most desired. Such apples pack more closely and are less liable to bruising than if oblate, conical or oblong.—Professor Lazenby in The Northwest Horticulturist.

PORTABLE OUTDOOR EVAPORATORS

Portable evaporators are especially convenient when it is desired to dry only a few bushels of fruit at any one time. The usual sizes have a capacity of five to ten bushels a day, and even more in some cases, although the quantity will of course vary with the attention given to them. As

which are made of sheet iron, usually galvanized. As no wood enters into their construction, danger from fire is eliminated. One of these styles is provided with a heat deflector and so constructed that hot currents of air pass over the fruit as well as up through it, the claim being made that this movement of air induces a more rapid drying of the fruit than in ordinary methods of construction.—Farmers' Bulletin No. 291.

IMPROVING CLAY SOIL

In the case of the clay soil one line of practise might be, first, to plow the land late in the fall, throwing the furrow on edge, so as to expose as large a surface as possible to the freezing and thawing of winter, and to permit a freer circulation of water, both of which agencies change the chemical and physical character, breaking up the chemical compounds and cementing the fine particles together, unlocking plant food and making it more open and porous. In warm climates this would result in some loss of plant food, but the loss would be more than counterbalanced by the benefits that would come from the changing of the base existing in the soil.

In spring, as soon as the land is dry enough, deep cultivation should be practised, and it should be preferably limed, in order to make the particles as fine as possible, to permit the heat and water to freely penetrate, and make conditions favorable for quick germination and early growth, because plant food has been made available, which is freely movable in soil solution. A cultivable crop should preferably be planted, and constant surface cultivation of the crop will help to retain moisture in the lower layers, preventing the baking of the soil in dry times, while at the same time contributing more available plant food.

If planted with corn before or as soon as the crop is harvested, it should be seeded with crimson or mammoth clover, vetch, rye, wheat or any crop that will make sufficient growth in the fall to absorb the soluble nitrates accumulated but not used by the corn, and that might be lost during the winter. This catch crop,

should be immediately cultivated rather than plowed, and seeded to a summer catch crop, cow peas, soy beans or buckwheat; with any of these crops the seed germinates quickly and the plants soon cover the soil, keeping it cool and moist. After the removal or plowing down of the summer crop, the land may be seeded with wheat or grass.—Prof. E. B. Voorhees in The National Stockman and Farmer.

THE CONTROL OF HOG CHOLERA

Scattered outbreaks of hog cholera are present in many sections of the country. These outbreaks, and infected yards as well, are the centers from which the disease spreads. Another important factor in perpetuating the disease from year to year is the feeding of infectious material to hogs in order to immunize them. Such methods of immunization cause a light form of the disease; the germs become scattered about the yards, and the health of neighboring herds is endangered.

In neighborhoods where outbreaks of hog cholera occur, stockmen should practise such precautions as are necessary against the spread of the disease. This control work should not be left to the owner of the diseased herd.

When this disease occurs on a farm, the herd should be quarantined and all possible precautions taken against the spread of the infection to neighboring herds. The diseased animals should not be scattered over the farm, or allowed to run in yards that border on streams, and hogs that have a chronic form of the disease must be prevented from straying away or mixing with neighboring herds. Other farm animals should not be allowed to run through infected yards, or litter allowed to accumulate in the yards. The hog houses, feeding floors, etc., should be cleaned daily and disinfected. The most convenient and practical disinfectants to use are the tar disinfectants or stock dips. These may be used in from two to four per cent water solutions. The final cleaning up of the premises must be thorough. All litter should be burned, or placed where other animals cannot come in contact with it. The dead hogs should be burned.

The veterinary department has been experimenting with a hog-cholera vaccine during the past year. The vaccine used was prepared from the tissues of rabbits that died from inoculation with blood of a cholera hog. The results of this method of conferring immunity have been satisfactory, and the vaccine will be tested in the field the coming summer.—R. A. Craig in The Farmers' Guide.

COST OF FILLING THE SILO

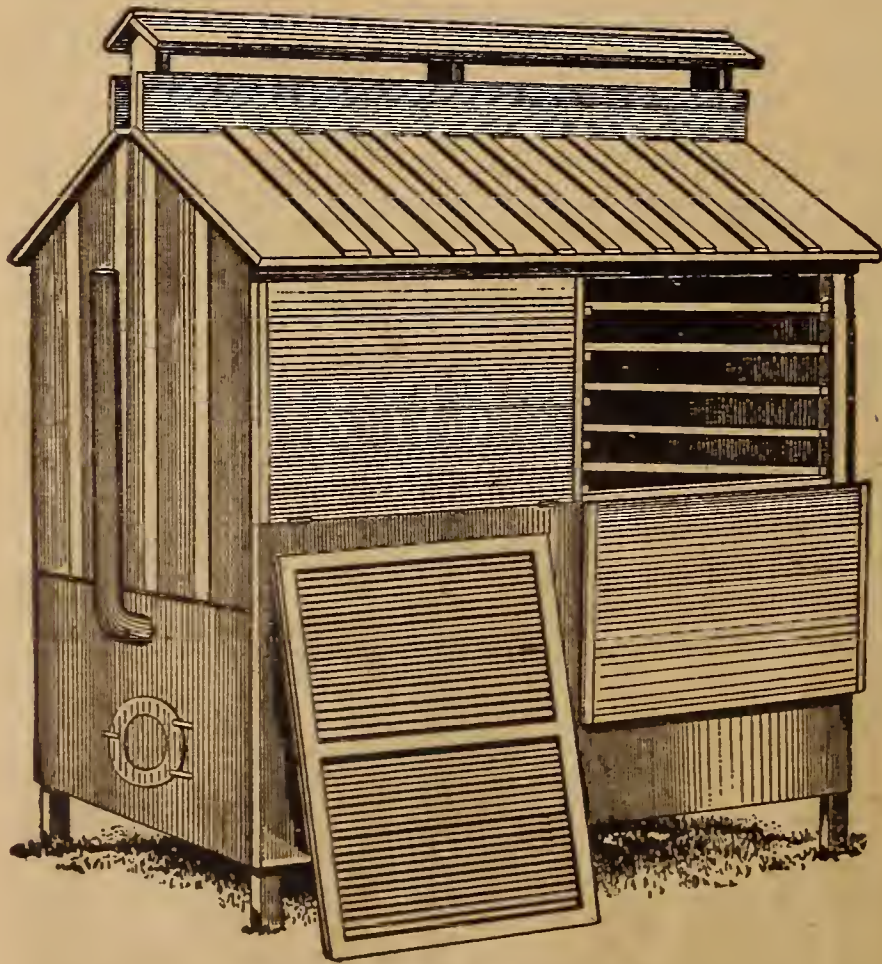
We believe there is more interest being taken in the silo question to-day than ever before in the past. This is no doubt due to the fact that the experiment stations, as well as successful farmers who have used the silo properly, pronounce them a success as a means of keeping fodder in the best possible condition for winter feeding.

The Department of Agriculture at Washington has recently made a study of filling the silo, and the result of that study is contained in Farmers' Bulletin No. 292. The department found that under average conditions it required from six to ten men to do the work satisfactorily, and from two to four teams, depending on the distance to haul. Labor was reckoned at fifteen cents an hour, and labor for two horses placed on the same basis. Engine hire, including the engineer, was placed at four dollars and fifty cents a day; twine cost eleven and one half cents a pound; coal five dollars a ton, and gasoline thirteen cents a gallon. The charge for an engine, engineer, silage cutter and one man to feed was placed at ten dollars, and ten hours was considered a day's work.

On thirty-one farms where methods were examined and the cost of everything inquired into, the cost per ton averaged sixty-four cents, the variation running from forty-six to eighty-six cents a ton. On these farms the average yield of silage an acre was 9.01 tons, so that the average cost an acre for putting the corn into the silo was \$5.94.—The Homestead.

FEEDING WORKING HORSES

Feeding working horses is a science in which only a small number excel. Some feeders feed according to the work that is being done, which is a wise method unless it is carried to an extreme. If a horse is overworked, overfeeding will not help him, but will instead throw him off his feed and induce indigestion. Some men do not give their teams any grain on days when they are not working. This is a mistake, for a working horse always needs some grain, although it is advisable to reduce the allowance when no work is being done.—The Wisconsin Agriculturist.



A SMALL PORTABLE EVAPORATOR

they are complete in themselves, and are not too heavy to be readily moved, they may be placed wherever convenience from time to time dictates.

The illustration shows an evaporator of this type which is constructed entirely of wood, except the parts in direct contact with the heater. There is space for ten trays for holding fruit, similar to the one in the illustration, the dimensions of which are two and one half by three feet. Each tray holds about one half bushel of fruit. Modifications of such an equipment to suit individual needs and conveniences readily suggest themselves.

There are several other styles of this type obtainable from manufacturers

in addition to holding plant food and preventing mechanical losses, will accumulate vegetable matter; the entire crop or the roots and stubble may be turned in in spring, thus adding to the soil substances which have a tendency to separate the fine particles, and make the physical character better, but also of adding organic substance containing nitrogen, which adds a valuable constituent, but which in its decay assists in the solution of mineral food.

In spring as soon as the catch crop has been harvested or is turned in, the land should be again seeded with corn, oats or barley; if either of the latter crops, the land, as soon as they are harvested,

THE HAND SEPARATOR

A great deal has been said for and against the hand separator on the farm. A great deal is still to be said. We are told on the one hand that it is impossible to make high-grade butter from the hand-separated cream delivered by the average farmer. The other side of the story is told by the farmer, who says that his separator is worth many dollars to him every year.

We hear repeatedly that the hand separator is increasing the profits of the dairy products on the farm because it limits the expense of delivering the bulk of the milk. It produces clean, pure skim milk for the pigs and calves and saves work at the house.

Doubtless all these statements contain an element of truth. We are willing to admit that many butter makers cannot make a gilt-edged product from cream delivered from an improperly kept separator. On the other hand, I cannot help but cite the large centralized plants which are able to compete in the best markets with a product made from gathered cream. Furthermore, this cream in many instances has been shipped a long distance and has been exposed to the damaging influences incident to shipping.

The time has long passed when the farmer can take account of the money that comes to him and disregard the items of expense and the cost of production necessary to produce what he has for sale. The business man who would follow such a plan would be looked upon as impractical. The farmer must watch his business as closely as the merchant or manufacturer if he is to get the best profit from his farm. He must take into consideration every possible method of reducing expense and increasing profit. It is hardly advisable for him to expect to increase his milk yield by increasing the size of his herd. He should rather look for a method of increasing the profits from the stock he already has. This is one thing which the separator does. Experience has proved that the same cow with the same feed and the same care will yield more money to the farmer if he uses a hand separator.

The reason for this is that the by-products are more economically taken care of, and the butter fat, which represents the real profit, is produced in better condition. The manufacturer spends vast sums of money for machines and plants to turn the by-products of his business into profit. The farmer must follow his

Review of the Farm Press

Finally, for the farmer who wishes to make the most of his cows and will use good judgment, the separator is of paramount importance. It is as necessary as the cash register for the merchant and the harvester for the grain farmer.—H. E. Colby in *The Country Gentleman*.

THE COW AND HER KEEPING

In considering the cost of keeping a cow, farmers often overlook the vital point in the question. It is not so much the cost of the feed that the cow consumes, but rather the cost of the product. There is where the real gist of the thing lies. For instance, a cow gives three thousand pounds of milk a year, and it costs thirty dollars to feed her for a year. That makes her milk cost a cent a pound, besides the labor. But if she gives six thousand pounds at no greater outlay for feed, then the milk costs half a cent a pound. But suppose it costs forty dollars a year for the feed; the milk then would cost but three fourths of a cent a pound. The objective point with every farmer should be to secure large-producing cows, not to cut down the amount of feed. All of this foolish mixed breeding, scrub breeding, using grade sires, and dual-purpose breeding, so called, has resulted in lowering the milk-producing power of the average cows of the country. When feed was cheap the farmer did not feel the pinch so much. The way to get a larger-producing cow is clear and simple. Here are a few guide points on the way:

1. Make the stable warm, clean and well ventilated. Your cows must live there two hundred days in the year. Have a comfortable system of tying them.
2. Then breed rightly. Use only a well-bred registered sire of pronounced dairy breed. Don't throw away future dollars in the producing power of the heifers by trying to save on the cost of the bull to start with. That is breeding toward the little end of the horn. Breed toward the big end. You cannot value the power of the sire for good or evil too much. Buy of men who are making a

study of this question of breeding and who are not mere dealers in cattle. If they do not use brains in their breeding you will suffer by it.

3. Make up your mind to be a liberal feeder, but never feed a poor cow longer than it is necessary to get her to the shambles. Under no circumstances waste feed hunting for milk in a poor cow. Be a watchful, good care-taker. Remember your cows cannot care for themselves. You must do it.

Study long and well how to raise a heifer so she will develop into a good cow. There is a great deal in that. Thousands of good heifers are prevented from being good cows by the blindness of the men who raise them.—Hoard's Dairyman.

SELLING EGGS BY WEIGHT

The North Carolina station, in connection with some of its recent poultry experiments, recorded the weight of eggs per dozen, as well as the number of eggs produced by pullets and old hens of a number of well-known breeds and by Pekin ducks during six months.

Generally speaking, larger eggs were laid by the hens than by the pullets of the same breed. The eggs laid by the Pekin ducks (old and young) were heavier than those laid by any breed of hens, weighing 35.6

ounces per dozen. Of the different breeds of hens tested the largest eggs were laid by the Light Brahmas, weighing twenty-eight ounces per dozen. The Black Langshans and Barred Plymouth Rock hens' eggs weighed a little over twenty-six ounces per dozen, while those laid by Single-Comb Brown Leghorns, late-hatched Plymouth Rock, White Wyandotte and Buff Cochins ranged from 21.7 to 23.7 ounces per dozen.

Of the pullets, the heaviest eggs were laid by the Black Minorcas, weighing 26.5 ounces, the lightest by the Single-Comb Brown Leghorns and Silver-Laced Wyandottes, weighing 17.5 and 22.1 ounces per dozen respectively. The Barred Plymouth Rock, White Plymouth Rock, White Wyandotte, Black Langshan and Buff Cochins' eggs all weighed not far from twenty-four ounces per dozen. As will be seen, the variation in the weight of the eggs was considerable. Rating the lightest eggs (those from Single-Comb Brown Leghorn pullets) at 13½ cents per dozen, the prevailing market price in North Carolina when these tests were made, the relative value of eggs from other breeds on the basis of their weight and their real value in proportion to the market price can be seen.—Poultry Success.

SOWING WINTER WHEAT

There has been a great deal of controversy as to the best time to sow winter wheat. For some years it was advocated to sow late to escape the Hessian fly. Late sowing did indeed help the wheat to escape the Hessian fly, but it also helped it to escape the early fall rains, which were very essential to it. In some cases the wheat was sowed so late that it did not catch the fall rains at all, but caught a fall drought and lay in the ground unsprouted or else sprouted and sent up a weak growth of stalks, which fell a prey to the freezing and thawing conditions in late winter.

It is altogether desirable that the sowing should be early enough to enable the plant to get the benefit of the moisture in the ground early in the fall, so that

stooling send up stalks that do not ripen their grain as early as do the main stalks. This may result in a too large amount of shriveled wheat kernels.

Some of the most successful farmers sow two bushels of seed to the acre and increase the amount if the sowing is after the first of October. Most of our farmers, however, do not sow that amount, except sometimes in broadcasting. If they sow in drills they use from one to one and one half bushels. The use of plump seed gives better results than the use of light seed. The various cleaning machines now being purchased by the farmers will doubtless considerably increase the yield of wheat, for they make it possible for the farmers to clean out of the wheat not only all weed seed and light kernels of wheat, but to also clean out the smaller and less heavy kernels.—The Farmers' Review.

FEEDING SILAGE

The average dairyman feeds thirty to forty-five pounds of silage a day to each cow. This means that an acre of land yielding twelve tons of green corn will supply the average ration of silage for seven months to three animals.

The silage should always be fed after milking, on account of the odor it imparts. If fed before, it is liable to taint the milk, or at least cause it to have an objectionable odor. It is important that no silage be left lying around in the barn or scattered in the feeding alleys.

The mangers, alleys and every part of the barn should be entirely free from silage as soon as the cows have finished eating that part of their ration. Years of experience have shown that silage is one of the best milk-producing foods that cows can be fed.

If the barn is properly ventilated and no silage is left strewn around on the floor to decay and to load the air with its odor, there will be no objections to the feeding of silage. It is the careless and indifferent dairymen who have led many people engaged in the milk business to condemn the silo.—The New York Farmer.

CROSSING FOR FAT LAMBS

CROSSES DO BETTER THAN PURE BREEDS

The blending of blood in different races of ovines never appears to answer better than for the production of fat lambs. I speak not of creating a new race of sheep, which takes years to establish to



MR. S. L. BLOWERS WITH HIS FLOCK OF SHEEP AND HERD OF COWS. MR. BLOWERS IS A RESIDENT OF CRAWFORD COUNTY, OHIO. A CAREFUL AND PAINSTAKING FARMER, AND A READER OF FARM AND FIRESIDE

example, and the separator is a successful method of doing it.

It has been said that a good dairy cow, a hand separator, and a well-bred brood sow with a bunch of squealing, healthy pigs make a combination that will write dollar signs on the farm. Such a combination judiciously managed, while it is not a get-rich-quick scheme, is a certain profit producer.

Extensive experiments have proved that the separator is the most economical way of saving the cream. An abundance of proof is at hand to verify the statement. It seems on the whole that there is little of real merit to be said against the machine.

This one thing must be constantly borne in mind, however, and that is that the machine must be given proper care. Absolute cleanliness is necessary under all conditions. The least particle of milk allowed to remain in or about the bowl causes an inferior quality of cream, which has done much to prejudice the creamery men against the machine. The whole thing can be summed up in a few words: The separator is as much superior to old modes of skimming as the modern churn is superior to primitive methods of churning butter. All the objections that have been raised to the machine can be easily answered if good sense will be used.

the plants can make a good strong growth and cover the ground with leaves before the soil freezes hard. This covering the ground prevents too much thawing in the late winter and also protects the roots of the plants. If there is a good mat of wheat stems and leaves there is little danger of the plants being heaved out of the ground by the frost.

It is impossible to set a time at which wheat should be sown, for the reason that localities differ greatly as to the conditions. In many localities wheat sown in the middle of September is in shape to make a good growth. It is almost sure to get good rains after that time. Further south the sowing may be delayed until into October, but most of the wheat is grown in latitudes where October sowing does not permit it to get a good start before the frosts come.

The success of the wheat crop depends largely on the kind of seed sown and the thickness of the sowing. It does not pay to sow so much wheat that the stalks will be very numerous and weak. The wheat plant on good rich ground will stool out well, and this makes it possible to sow a less amount of seed than would otherwise be the case. There is one advantage in sowing quite thick, which is in seizing the ground ahead of the weeds. The stooling of wheat is not always desirable, as some of the varieties of wheat when

get a fixed type, as uniformity and orthodox points are not of primary importance, like, for instance, when exhibiting is the aim. Neither is there fear of a good flock being spoiled in the venture, as it is only a matter of producing a carcass of size and quality, because the stock is not allowed to stay with us long and propagate its kind, all being finished in the slaughter house in a few short months. It is easy enough and common enough to do the wrong thing in the blending, and then the farmer observes, "The cross does not hit," and disappointment naturally results. But from considerable experience in my own flocks, and from observations made among those of others, in widely different parts of the country, I have found that with shrewd judgment in blending the right varieties more profit may be made very often than in adhering to the pure breeds for fat lamb production, and, as with crossing for feeders, pure-bred parents are all the better; and if it be not quite convenient to use pure-bred ewes, the ram should at least be pure.—W. R. Gilbert in the National Stockman and Farmer.

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Gardening

BY T. GREINER

WHAT FALL PLANTING WE DO

THERE are some things we can and do plant in the fall. Among them are rhubarb and asparagus. Both do about as well when planted in early spring; but when we have the time, and the plants, and a spot that can be put in good shape this fall, there is nothing that should prevent our doing this work now, and by spring the plants will be ready to push at once into strong growth.

For these vegetables I like to have plenty of stable manure well mixed all through the soil; but if any coarse manure is to be applied as a top dressing after planting, I prefer to put it on early rather than after the ground has become frozen.

For trees and small fruits I prefer spring planting, although such things as raspberries, blackberries, currants, etc., also pear and perhaps apple trees, could be planted in the fall. Spring is good enough for me, however.

At this time we sow lettuce seed to make a late fall crop, and other sowings are made a few weeks later, so as to have plants to set on the greenhouse bench to make some nice heads for Thanksgiving, Christmas, etc. If we have to be afraid of lettuce diseases (and lettuce under glass is quite subject to diseases), then we had better sow Grand Rapids lettuce, for a good leaf lettuce like this is far better than a diseased head lettuce. Of course, we want spinach as early in spring as we can get it, and if we have a nice, fertile spot of ground that is a little protected we can sow seed in the fall, say by October 1st, or even a little earlier, making the drills a foot apart, and using good seed of any of our standard varieties at the rate of an ounce to from two hundred to three hundred feet of row. We have to sow thickly enough to make provisions for winter losses. If a little winter protection can be given, say by a light mulch, all the better.

I have tried planting onion sets in the fall, but failed to get a crop even of such hardy variety as the Silverskin. This might have been accidental, and another time, possibly, the sets may do all right. It is uncertain business, however, and I will let others engage in it. But I have to risk bulbs of the same variety for seed. In fact, the Silverskin or White Portugal seed which I am just at this time sowing in open ground to make early green onions for next spring was gathered last summer (1906) from bulbs grown from seed sowed in August, 1904, and planted out in open field, during August or September, 1905, plants thus having been out in open ground for two winters. A portion of the bulbs set out for seed did winter kill, but I had planted them pretty thick, and there were enough left to give me a fair crop of seed. Some of this seed was sowed last spring. When the bulbs are ripe they will again be planted at once, left out in open ground all next winter, and give a crop of seed in August or September of next year. I do not think much of the common winter onion. If I did I would plant top sets in August. But I won't. Welsh and Silverskin give me what I want.

REMEDY FOR HOLLOW CELERY

We have had it now and then—this hollow-stalked celery. We have seen it in all varieties, early and late, but especially in the self-branching sorts. In some cases the seed may be to blame for it, having been grown from a poor strain. Usually, however, the fault is in the soil. For instance, if you plant celery on old muck land that is rich in nitrogen, but poorly supplied with mineral plant foods, you will very likely get hollow stalks. The remedy in such cases is to be found in the free application of the lacking food elements—potash and phosphoric acid.

A reader asks me how much of each should be applied to the one hundred feet of row. He writes that he has a light sandy soil that has been planted in potatoes for the past twenty years. "Large quantities of hotbed manure have been used on this land for several years past. Celery last year made a rank growth, but was not very solid. The seed was probably all right, as a friend had nice solid celery from the same seed."

I believe it to be a mistake to plant potatoes on the same ground for many years in succession, even when manure is used very freely. The vines usually grow quite thrifty, and appear promising, but the yield is small and unsatisfactory. The crop eats up the potash pretty freely, thus disturbing the proper balance of the food elements, making the soil too-heavy in

nitrogen and short in potash and perhaps phosphoric acid. This condition will account for the thrifty growth of the celery and for hollow stalks.

The application of wood ashes would probably remedy the fault. If unleached, we may scatter half a bushel or more along the one hundred feet of row, and all the better if we also use with it five or ten pounds of superphosphate (dissolved rock). This would be equal to an application of at least three hundred pounds of muriate of potash and one thousand to fifteen hundred pounds of superphosphate an acre. If the ashes are leached, a bushel or more must be used to the one hundred feet of row, and superphosphate might be omitted in whole or in part. Wood ashes are a safe application in almost any case, and there can be little fear of using too much, even if the quantity be doubled. In the absence of ashes I would use nearly five pounds of muriate of potash, and perhaps double that quantity of dissolved rock, or any commercial fertilizer that might happen to be available, in corresponding amounts. It should give us the solid and crisp stalks so much desired.

ARE PLANTS POSSESSED OF SENSES?

An eminent Dutch botanist, Dr. P. G. Buckers, in a recently issued work insists that plants really possess senses and their necessary organs. A review of his book is summarized in the Dutch magazine, "Vragen van den Dag." This review says:

The hygroscopic root that is so sensitive to water and turns with such certainty toward it must have an organ for this, though we have not yet discovered it. The nice dainty taste of numerous plants has been established beyond all doubt, although the organs of taste no one has yet seen. How, then, could it be discovered that a plant can taste? That a plant is aware of light is evidenced by the fact that it turns toward it. Gravitation, also, makes it grow upward; at a touch it is impelled to certain movements. But is it credible that anything can taste either good or bad to a plant? Taste has meaning only when by its means something agreeable can be distinguished from something else that is not so. And yet this is the discovery that has been made, that plants have the sense of taste.

The dwarfs of the plant kingdom, the bacteria, are the greatest gourmets in existence. They are so sensitive to the most infinitesimal part of some substances upon which they feed that they can be drawn from a distance toward any such tidbit that is offered to them. They can even be enticed to the most deadly poison when this has been highly flavored with a taste of their favorite delicacy. By such experiments was discovered the principal food of most bacteria—the kali salts. The objection that in those cases they are impelled only by the natural desire for food is met by the fact that they have a fancy for special delicacies. They thrive, for example, finely on glycerine, but cannot be lured by this. Again, each group has its own preferred delicacies, for which it will go through thick and thin, if such expression can be used of a drop of water. They must have a good palate, therefore, these bacteria, for they show just as distinctly a distaste for other substances.

But these do not furnish the only examples of the possession of the sense of taste in the vegetable kingdom. This sense occurs in Nature in the service of propagation.

The beautiful miniature flora of our forests, the mosses, multiply themselves by means of remarkable creatures resembling infusoria. These living cells are possessed of a long vibrating hair, by means of which they swim about rapidly in a dewdrop. These constitute the semen needed to fertilize the moss. They are attracted by the female parts of the moss, which are extremely delicate cups, at the bottom of which is an egg that can only be developed when it has been united with such a bit of seed animalcule. What, now, is it that leads these seed animalcules into the right track? Their sense of taste. They are extremely partial to the taste of malic acid. In the laboratory they can be enticed by thousands into narrow glass tubes containing a solution of this acid. This would seem to prove that it is not chance, but a purposely designed arrangement, that gives a malic acid taste to the moss egg, by which its fertilizing bacterium is attracted.

Ferns also send off small seed animalcules to effect propagation. If they, too, now were attracted by malic acid confusion might arise; but their fertilizing bacteria are fond of sugar, wherefore the egg cups of ferns have a real sugary taste.

After such discoveries it can no longer seem ridiculous that some botanists have raised the question whether plants have not also a sense of hearing.

Fruit Growing

BY SAMUEL B. GREEN

MERITS OF CATALPA AND BLACK LOCUST

E. B., East Concord, New York—In sections where the black locust grows well and is free from borers it is one of the most rapid-growing and desirable trees to plant for fence posts, as the wood is desirable for all purposes where it comes in contact with the ground. It is propagated from seed, which should be scalded before it is sown, as described in these columns in a recent issue. The locust is found native as far north as Minneapolis, and will grow even in quite a dry soil. The catalpa is not quite so hardy as the locust. The wood is of about the same value for fence posts and other purposes where durable wood is desired. It is easily propagated by seed, which grow as easily as beans when treated in the same way. It is very important, in getting the seed of the catalpa, to get the true *Catalpa speciosa*, as frequently seed of *Catalpa bignonioides* is substituted for it. There are also some hybrids between these two species which are not nearly so desirable as the true *Catalpa speciosa*. I think you can obtain the true seed of this species from John Brown, Connersville, Indiana. In the case of each of these trees, they are easily grown from sprouts, provided they are cut when the trees are dormant. Sprouts from the catalpa or locust will often grow to the height of six to ten feet in a single year. As a fence-post tree the white willow is being largely used in some sections. It is not generally known that this tree can be grown on quite dry soil and that it makes a desirable fence post. If this wood is peeled and carefully piled, it will, when dry, last about seven years in the soil. When treated with creosote oil they will last perhaps for fourteen or fifteen years. This treatment consists of boiling in this oil for an hour or more the portion that goes in the ground, until the wood becomes thoroughly impregnated with the material. This process is new and not generally known, but is destined to play an important part in the handling of fence posts in the future.

APHIS ON CURRANT

O. P., Kemper, Illinois—The currant leaf which you sent is infected by what is known as the currant-leaf aphis or currant-leaf louse. It is a common trouble throughout the Northern states. The most practical way of keeping this in check is to spray the plants early in the spring, before there is any appearance of the injury, with tobacco water. After the leaves are curled up it is very difficult to reach the insects, which are in the blisters on the under side, and in order to reach them a spraying apparatus with a crooked nozzle must be used, which will throw the spray upward. It is a good thing to pull off the infested leaves.

To make tobacco water, use tobacco stems or other raw tobacco steeped in hot water for half an hour, and use it the color of strong tea. This is one of the best remedies for leaf insects. Kerosene emulsion may also be used.

DESTROYING POISON IVY

Nordstern Publishing Company, Saint Cloud, Minnesota—We have no special publication on the subject of the destruction of the poison ivy and similar plants. When the poison ivy is especially abundant and in a patch by itself, probably the best way of getting rid of it would be to water it with strong brine, gas-house liquor or some other material that will destroy it. After the plants have been killed they should be grubbed out. Of course, as you know, some persons are immune to injury from this plant, and for them the best method is that of grubbing and plowing.

CURLY LEAF ON PLUM—LICE ON PLUM TREES

E. C. W., Ord, Nebraska—The samples of diseased plum twigs which you sent are affected with what is known as leaf curl. This is a disease similar to plum pocket and curly leaf of the peach, and is controlled in the same way. It is caused by a fungus working in the soft tissues, causing it to swell up and become distorted.

The best way of protecting them from this is to spray the trees at least two or three weeks before the buds open with a solution of sulphate of copper, one pound to twenty-five gallons of water. This treatment destroys the germs of the disease, which winter over on the twigs and around the buds, and has proved

entirely satisfactory as a preventive of this trouble. Of course the diseased portions of the branches are injured and will die off, and it would be just as well to cut them off at this time or they may be left until later.

In regard to the leaf lice on your plum trees, if they are very troublesome I have found the most satisfactory way of getting rid of them is to smoke the trees with tobacco smoke. To do this, I make a small tent of cotton cloth which can be put over the tree, and then build a smudge of tobacco stems in some metal vessel and put it under the tree until the tent is full of smoke. One application is sufficient to destroy all the lice.

Treatment with kerosene emulsion alone or with tobacco water is not satisfactory where the lice are very thick on the foliage. It is important, in using tobacco smoke for this purpose, to use moist stems, so that they will not flame up under the tree, otherwise the foliage is liable to be burned.

RASPBERRIES BREAKING DOWN

W. V. L., Mount Sterling, Kentucky—I understand from your letter that you pinched your Kansas raspberries at eighteen inches, and that the lateral buds have sent out a large number of shoots, which are now five or six feet long, and these plants are top-heavy and are splitting down. I have never had just this experience, and I take it that it has come from an exceedingly rapid growth, and perhaps wind storms accompanied with rain. I should certainly shorten the laterals so as to prevent the bushes being so top-heavy. I think, however, that by the time this reaches you the stems will have become sufficiently strong to hold up the tops. As a rule we have less trouble with plants that are shortened in this way than with those that are allowed to grow all in one cane. It is possible, however, that with this variety in your section you may get better results by not pinching, or perhaps pinching at three feet from the ground. I have grown the Kansas raspberry for many years, and find that our system of pruning has worked satisfactorily.

PEACH AND GRAPE LEAVES DISEASED

A. B., Clovis, California—The fact that peach and grape leaves turn yellow in one particular spot on your farm, and that the trees appear to be severely injured, makes me think it probable that soil conditions are not right. The foliage of trees may turn yellow from a variety of causes, but a common cause is the presence of too much alkali in the soil. This may have come from the accumulation of alkali left by the evaporation of the irrigation waters or the spot may naturally be alkaline. Of course too much water in the soil would have a similar effect.

LEAF GALLS ON COTTONWOOD

B. R. Z., Augusta, South Dakota—The specimen which you sent, showing the leaves of your cottonwoods at the ends of the young branches distorted and hardened into a sort of case, is quite a common affection and occurs nearly every year. It is caused by an aphid (plant louse), the life history of which I think is not known, which works in the new growth on the young branches, causing them to become thus distorted. These peculiar growths remain on the cottonwoods during the winter, and are quite unsightly. I think this aphid seldom causes any serious injury to cottonwoods, although it undoubtedly checks their growth. There is no satisfactory remedy known.

BLACK OAKS DYING

F. W. F., Winona, Minnesota—I am at a loss to account for the death of so many of these black oaks this year, and think it possibly due to some fungus working on the roots, or else to an unusually large number of borers. Of course, where the soil is packed around the roots by the treading of horses or cattle, an unfavorable condition is brought about, which frequently results in the death of the trees. The class of oaks to which this tree belongs is shallow rooted when grown under the conditions found in the forests of Minnesota, but when planted out under ordinary conditions its roots run fairly deep. I do not know of any remedy to suggest.

WILD SARSAPARILLA

M. P. H., Wannaska, Minnesota—The plant specimen which you sent is wild sarsaparilla, *Aralia nudicaulis*. It differs from ginseng in the fact that the leaflets of the ginseng come out in groups of five from a common center, while in this the five leaflets come out from the sides of the stem, with one leaflet on the end. However, it is very closely allied to the ginseng.

Poultry Raising

BY P. H. JACOBS

THE MOLTING OF FOWLS

MOLTING is a natural change which occurs with all birds at certain seasons of the year; it is the elimination of old feathers and the growth of a new supply. Nature removes the bodily covering whenever the condition of the bird demands such, which is usually about once a year. The process of molting may begin earlier with some flocks than with others, as much depends upon the age of the birds, the food and mode of management.

It requires about three months for a fowl to molt—that is, from the time of beginning until a complete new plumage is attained—and during that time many hens in the flock do not lay. Sometimes whole flocks cease to lay as soon as the process begins, the result being a loss of three months, leaving but nine months for egg production, which is sufficient loss of time to greatly reduce the profits.

If the hens begin to molt early they will usually finish before cold weather comes; but should molting begin so late as to throw the period over until the cold-weather season, the probability is that they will not lay before spring, as they are usually in a debilitated condition after a long molting process. It will, therefore, pay to get rid of all hens that do not begin molting before September. If they lay during the molting period, the number of eggs will be few, as the hens cannot produce their full quota of eggs and renew their feathers at the same time.

Of recent years the molting of fowls has been hastened and the time reduced by systematic methods of feeding. One mode is to place the hens in a yard, away from the males, feeding them as little as possible, in order to reduce them in weight, the allowance of food for each hen being about a teaspoonful of grain, or its equivalent, for about ten days or two weeks, at the end of which time they are fed liberally, animal meal, ground bone, linseed meal and grain forming the food, placing the materials in a hopper, so as to permit the hens to help themselves. An excellent mixture is equal parts of corn and wheat in one hopper, with equal parts of linseed meal, ground bone, animal meal and millet seed in another hopper, occasionally giving a little moistened cornmeal containing a small proportion of sulphur. The partial fast does not injure them if they are fat. By this method Leghorns have been known to complete the process of molting in one month, while other breeds require six weeks. It is a great reduction in time compared with the three months usually required for molting.

A gain of six weeks of the molting period, especially when one has a flock of fifty or one hundred birds, is an important matter, as there is a possibility of each hen laying three dozen eggs during that time, which, at twenty cents a dozen, is sixty cents for each hen, or thirty dollars for a flock of fifty fowls. When it is considered that one dollar a hen is the estimated average profit for one year, the gain of sixty cents, by reducing the time of molting to one half the usual period for performing the process, is a large item, compared with the receipts for the entire year.

The practise among those who have closely observed the hens when they are molting is to have them begin as early as possible, so as to be in full feather before winter. It is always an advantage to have the hens in the best possible condition late in the fall, not that they should be very fat, but rather in full health and vigor, active, having clean and abundant plumage, and each individual free from vermin.

THE YOUNG TURKEYS

But few poultrymen or farmers give themselves concern regarding the turkeys at this season, yet in about three months, when Thanksgiving arrives, the young turkeys of to-day will be sent to market, and to have them large and well grown they should now receive extra attention. It is customary to turn them out to forage for themselves and to roost in the trees. It is an excellent plan, as it enables many farmers to rear a large flock at little or no cost, but it will now pay to give them a mess of food at night, so as to increase their growth, as well as to induce them to come up to roost.

If the young turkeys are induced to come up under an open shed, so as to be protected from storms, they will thrive better than if roosting in trees. Young turkeys become lame from flying on and off the high limbs of trees,

and do not grow rapidly after being injured.

The object should be to feed them from this time until they are ready for market, but feed only sparingly at present. After the middle of September they can be fed all they can eat at each meal, morning and night, in order to have them fat and in choice condition to secure the best prices.

It is not always the largest turkey that sells the soonest, but the fat and plump bird, of medium size, for which an extra price can be obtained at all seasons. In addition to corn and wheat, allow ground meat, bone meal, or any other food that they will accept, as it will pay to push them rapidly.

POULTRY IN BARN YARDS

There are some who contend that the farmer depends too much upon the ability of the fowls to secure a large share of their food in the barn yard. It is claimed that the pickings of the voidings of horses and cattle, with the waste grain, hay seed and broken leaves of clover hay, secured by the hens amount to a large quantity, and also afford a variety. This is said to be the reason why common hens sometimes lay more eggs than the pure breeds. The latter are overfed and get but little exercise; the common hen is compelled to work, while the pure-bred hen has but to patiently wait for her meals.

Nearly all the farmers feed corn, which keeps the hens warm, and though the supposition is that the common hens receive only corn, yet no estimate is made of the varied food they pick up in the barn yard. The fact is that the common hen is sometimes better fed, so far as variety is concerned, than the pure-bred fowl, but she must seek it, which she does, and in an industrious manner, her very industry keeping her in excellent laying condition. Placed under the same conditions the pure-bred hen will always surpass the common barn-yard fowl.

QUICK FATTENING

Ducks and geese are capable of consuming large quantities of food, for which reason the sooner they can be made fat and marketed, when it is desired to reduce the number, the less the expense. Fattening the ducks and geese is best done when they are confined or when only two or three are together. Like a pig, a duck or goose will eat more when it has a companion than when it is alone, as greediness is one of the characteristics belonging to both.

The food need not be expensive. Boiled turnips, carrots and potatoes, with cornmeal, make the best mess with which to fatten ducks and geese quickly. They should be kept very quiet, given plenty of water for drinking, and allowed pulverized charcoal once a day. Ten days is sufficient for getting them in proper condition if they have good appetites. Do not omit chopped clover or grass, as bulky, green food promotes and hastens the process.

LATE HATCHES

It is now customary on large poultry farms to hatch poultry in November for the late winter market, the chicks being sold when less than one pound weight each. They are substituted for squabs, which are frequently scarce in January and February. Later, in the spring, there is scarcely any demand for such small chicks, in comparison to that for the heavier ones.

Some poultrymen hatch chicks for every season of the year. Although prices are lower in the summer, the expense for food and care is much less. Choice broilers bring high prices, but a large number of chicks reaching the markets after June and July sell at low prices, because they must then compete with the hen-hatched chicks, squabs and ducklings.

Eggs laid from April to August will hatch better than those laid after that time. This is due to the fact that the hens are not in their full vigor after August, being in the molting period or approaching it. The chicks that are hatched late are not as strong and vigorous when hatched as those hatched earlier, but they have the advantage of warmer weather. Lice, however, are more destructive, and unless chicks are protected against the pests, it will be more economical not to allow them to be hatched.

Pratts, POULTRY GUIDE



HINTS FOR POULTRY RAISERS



25 HENS—473 EGGS

One Month's Record Made by Chickens Given Pratts Poultry Regulator

LANDENBURG, PA.—H. J. Taylor, of this town, reports a total of 473 eggs from 25 hens in one month as a result of using Pratts Poultry Regulator. This, however, is not an unusual showing. The use of Pratts Poultry Regulator keeps the hens always in the finest condition for laying and the egg production is right up to the limit.

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Pratts

POULTRY REGULATOR

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is made only of finest imported roots and herbs scientifically combined to give the highest possible degree of effectiveness.

Pratts Poultry Regulator is a positive egg producer. It also increases the size of fowls—adds lustre to their plumage—makes the comb and wattles a bright red—makes the eggs fertile—makes little chicks grow quickly—prevents gapes and leg-weakness—keeps poultry always strong, healthy and profitable.

A dollar carton is enough for 100 chickens one month.



ADVICE FREE

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Our Veterinary Staff is at your service free of charge, and any questions relating to the care and treatment of your fowls or animals will receive expert attention.

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We are now printing the five books named on the following list. Simply drop us a postal card mentioning which you want and we will mail you copies as soon as they are off the press.

The regular price of these books is 25 cents, but if you are interested in Pratts Preparations you get them free.

Pratts New Poultry Book.
Pratts New Horse Book.
Pratts New Cattle Book.
Pratts New Hog Book.
Pratts New Sheep Book.

SCOURGE OF LICE

This Foo to Profitable Poultry Raising Exterminated by Pratts Lice Killer

Poultry raisers lose thousands of dollars a year because of lice.

Lousy fowls are thin, eat too much, lay few eggs, and cost more to keep than they are worth.

Lousy fowls die off quickly because they are too weak to face changing weather conditions.

Save your poultry from this dangerous scourge by using

Pratts

LICE KILLER
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It positively kills lice on all kinds of fowls and makes your poultry more profitable.

Pratts Lice Killer saves you both trouble and money. Costs only 25c and 50c a package and pays dollars for every cent invested.

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With every package you get a double guarantee signed by the President of the Pratt Food Co. and also by your dealer, that Pratt Preparations will do exactly what they are intended to do.

Pratt Food Co.

Department 1

PHILADELPHIA, PA.

THE GREATEST OF ALL MUSICAL INVENTIONS—THE TWO HORN

DUPLEX

PHONOGRAPH

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Each horn is 30 in. long with 17 in. bell. Cabinet 18 in. x 14 in. x 10 in.

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The Duplex is equipped with a mechanical feed that relieves the record of all the destructive work of propelling the reproducer across its surface. The needle point is held in continuous contact with the inner (which is the more accurate) wall of the sound wave groove, thus reproducing more perfectly whatever music was put into the record when it was made.

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FREE CATALOGUE

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If you want a stove or range of any kind for any purpose, let us send

"A Kalamazoo Direct to You"

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All Kalamazoo cook stoves and ranges are equipped with patent oven thermometer which saves fuel and makes baking and roasting easy.



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If you need anything in saw mills or wood working machinery, send for our catalog. Our line is complete. Goods highest quality and prices reasonable. **American Saw Mill Mach. Co., 130 Hope St., Hackettstown, N. J.** New York Office, 602 Engineering Building.

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makes old harness like new. Made of pure, heavy-bodied oil, especially prepared to withstand all weathers. For all axle troubles use **Boston Coach Axle Oil**. Better and more economical than castor oil. Will not gum or corrode. Lasting, reliable, satisfactory. Highest Award, World's Columbian Exposition.

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will reduce inflamed, swollen Joints, Bruises, Soft Bunches, Cure Boils, Fistula, or any unhealthy sore quickly; pleasant to use; does not blister under bandage or remove the hair, and you can work the horse. \$2.00 per bottle, express prepaid. Book 7-C free.

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INDUSTRIAL ALCOHOL for use in Gas and Farm Engines, Heating, Lighting, etc. OUR NEW BOOK on the subject tells how YOU can make this NEW FUEL, right on the farm. Send NOW for full particulars

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Many styles and heights; Diamond or Square Mesh; prices low. **Sold direct on 30 days free trial**, freight prepaid. Catalogue free.

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WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on skids. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

Live Stock and Dairy

TWO LITTERS A YEAR

I HAVE noticed the lack of management of some thrifty men. They raise one litter a year by the same sow. This is all a mistake. Every sow should have two litters every year. So arrange as to let the sows farrow in December and again about the first of June. The pigs that are born in December will be about the size everybody will want the following spring, and there will be no trouble in selling them. I have never had a December pig left on my hands in the spring. The December pigs will usually sell for enough to keep the mother and the second litter all the year, so in this way the second litter ought not to cost one cent in the way of expense.

The June pigs, if fed properly and kept on clover or alfalfa, ought to weigh one hundred and fifty pounds each at six months. They will make elegant meat in the fall. If I can sell at a good price for stock, I do so, and buy meat from my neighbors. A good pure-bred pig at six months old will usually bring enough to buy twice his weight in meat.

Some breeders claim it is too hard on a sow to raise two litters every year, but I don't think so. I always let my sows mate as soon after weaning pigs as they show a disposition to. This is the rule of Nature. I have found by experience that any good sow not fed too much on corn, kept in a good pasture, and given a moderate quantity of shipstuffs or middlings, will farrow two litters a year for five, if not six, years, and the pigs will be strong and healthy.

Don't keep brood sows too fat at any time, or the pigs will be weak and few in number. By observing the above suggestions any intelligent person can raise hogs at a profit.

W. H. ARMISTEAD.

A SWINE-BREEDING CRATE

In breeding old boars to young sows a breeding crate should be used, and especially one that has foot boards or rests on the side of the box, so that the boar may rest his heavy weight there, and so relieve the young thing of the strain of holding him up during service.

In breeding young boars to old sows a breeding crate is just as essential, for here the old sow is held quiet while being

rear to elevate small boars to large sows should be heavily made of plank, with cleats one by one and one half inches nailed on at frequent intervals, to provide a firm foothold for his feet. The side running boards or foot rests should be one and one half inches thick, supported by heavy brackets or uprights. One of these should be about six inches wide for one side, and for the other there are several ranging from six inches in width to fourteen inches, so that one may be used of proper width to fit against the sow snugly and hold her firmly in place, so that she may not squirm about during the service.

One or more sets of cleats are nailed on at top and bottom, as indicated, far enough apart to admit the sliding door. This makes the crate adjustable for different-sized sows, holding them to the rear of the crate without worry to the boar. A heavy iron bar is run through the frame of the crate at the rear, to prevent the sow from backing out or lying down. The crate should be about five and one half feet in length, two feet wide and three feet high.

R. M. WINANS.

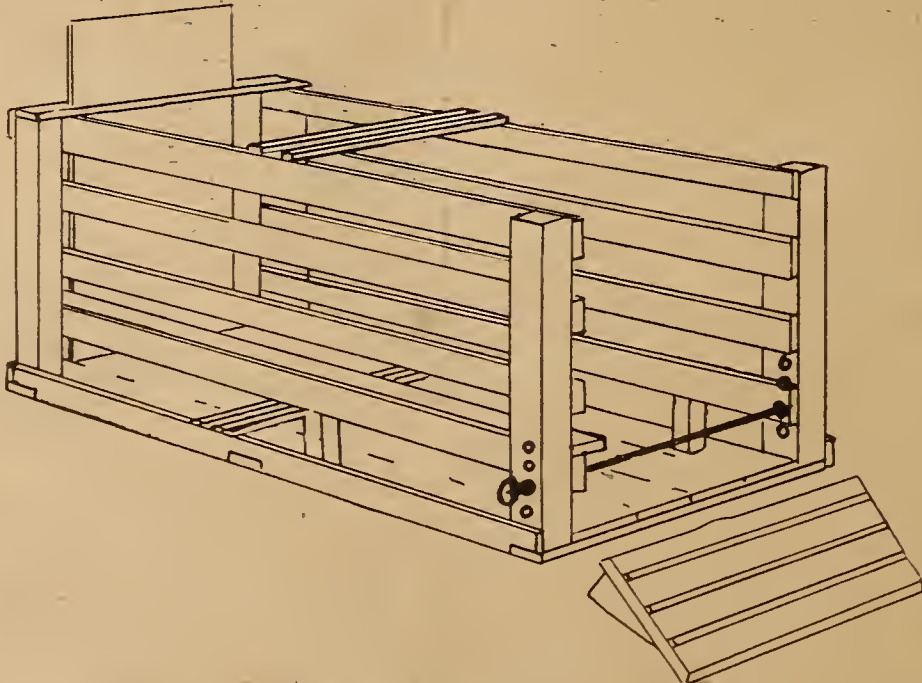
SELECTING BREEDING SWINE

In selecting his breeding swine the farmer and feeder should give attention first to the sows, especially if all are to be bred to the same boar. They should be as uniform as possible in point of age, size and form, thereby increasing the probability of uniformity in their progeny at time of marketing.

They should be selected when young and comprise the very best and most vigorous individuals in the herd. By following this rule a type is established and the vigor turned to good account in maintaining that type in the herd.

As soon as the young sows are selected they should be separated from the rest of the herd that are being fed for the market, and be fed and grown with special reference to the duties before them.

With equal care select the boar, a pure bred if possible, to which they are to be bred. If they have faults, and all sows have, he should show a good development in the particular points where they are deficient. Breed to enlarge and improve. Do not perpetuate and intensify a fault



SWINE-BREEDING CRATE

served, and an adjustable platform at the rear will elevate him to the proper position to reach her without the strain on the youngster that generally results in such service without the box.

However, a breeding crate should be used in any event, as the sow is kept quiet and prevented from worrying the boar either before or after service, a thing to which too little attention is given, and which results in the loss of a good deal of vitality.

A crate such as is shown in the cut has been used on our place for several years with satisfactory results. The framework of the crate should be very substantial, as with large animals much strain is generally brought to bear upon the sides. The corner posts should be made of four-by-four-inch stuff and the side rails of two-by-four-inch scantling. All that is required of the floor is that it be firm enough to hold the animal without springing. The sliding front gate or door can be made of ordinary inch boards, although, where possible, it is best to have it of one wide board.

The adjustable platform used in the

that can be remedied by careful selection. While we must not expect too much of a sire, yet we have a right to expect more of him than of the dam in establishing a type and uniformity in the offspring, although the dam has a great influence upon the general form and vigor of the pigs.

In addition to assisting in the creation of new lives the sow must perform other important functions and cannot be relied upon to stamp the individuality as strongly upon the pigs as will the sire. Hence it is in most cases that the sire is more prepotent than the dam.

To have an even and uniform lot of pigs to feed, it is necessary to select a good boar of as near perfect type as can be found, and mate him with a uniform lot of sows instead of sows of all ages, shapes and styles.

W. M. KELLY.

Do not ever forget that FARM AND FIRESIDE guarantees a square deal to subscribers from advertisers. Do not have any hesitation in answering any advertisement which appears in FARM AND FIRESIDE.

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IS
HEALTHFUL AND PLEASANT
IF YOU WEAR
TOWER'S FISH BRAND
WATERPROOF OILED CLOTHING
BLACK OR YELLOW
Perfect Protection
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No Fish Story.

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World's Most Famous Separator
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MORE GOOD CIDER OR GRAPE JUICE
can be made from a given amount of apples or grapes with one of our presses than with any other. The juice will be purer and bring higher prices, while the extra yield soon pays for the press. We make **HYDRAULIC** Power Presses in all sizes, hand or power. 25 to 600 barrels per day. Also Steam Evaporators, Apple-Butter Cookers, etc. Fully guaranteed. Catalog **FREE**. The Hydraulic Press Mfg. Co. 8 Main Street, Mt. Gilead, Ohio

The Hay Baler
which is in a class by itself.

"ELI" PRESSES bale fastest and best for shipping and market. Largest Feed Openings. horse and steam powers, 38 styles and sizes. Many featured machines, standard of the world. Get the free Eli catalogue.

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"Cheaper than Wood." Guaranteed 20 years. Can't rot, rust, or burn; break-off, freeze or pull out. Light weight, easy to handle and set. Made by Automatic Machinery, of heavy double-galvanized metal. A Tapering, Tubular Post with fasteners that hold woven, smooth and barbed wire. "THE BEST POST IN THE WORLD." Let us send you a sample post. **BIG MONEY-MAKING OPPORTUNITY FOR AGENTS IN TERRITORY NOT CLOSED.** Write for catalogue and full particulars

AMERICAN POST CO. Inc., 169 Barrah St., Bloomfield, Ind., U. S. A.

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Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an **Electric Handy Wagon.** It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It's free.

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FLY AND LICE KILLER
PAT'D
Is an ingredient prepared to keep flies from cows during the summer months while milking and in pasture. Absolutely harmless. For \$1.50 we will send one gallon fly killer, and a sprayer for applying same, which is enough to protect 500 cows. Cows will give 20% more milk daily. Guaranteed or money refunded. Catalog free. Agents wanted.

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Cheap as Wood.

We manufacture **Lawn and Farm FENCE**. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is **Free**. Write for it to-day.

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Wire Fence 29c
48-in. stock fence per rod only. Best high carbon coiled steel spring wire. Catalog of fences, tools and supplies **FREE**. Buy direct at wholesale. Write today.

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3 FEEDS TO THE ROUND **SELF FEEDER** **2 PROFITS IN HAY BALING**
ADAMANT HAY PRESS CO. 17 17th Street, CHICAGO

Live Stock and Dairy

COMMERCIAL DAIRY FOODS

G. W. M. K., of Maryland, a dealer in feeds, writes: "I am dealing in feeds, etc., and want to keep in stock the best and most economical feed for the farmer for producing milk. I would like to have suggestions as to the best and cheapest feeds for the dairy farmer."

This brother propounds a rather difficult question. The best feeds are those that supply the deficiencies in the farm-grown feeds. It is now well understood, at least among progressive feeders, that the best ration is that which is well balanced as to the elements of protein, carbohydrate and fat; that is palatable and has variety. Furthermore, when fed to good cows it must show to the feeder the largest net profit.

If Mr. K. has a class of patrons who understand the proposition of good feeding to the extent of buying the "best" feeds, he is fortunately located. If he has not, he must start in to do a vast amount of missionary educational work. May he get his reward; he will earn it.

As a mercantile custom is to sell what the people want, the correspondent, as a merchant, would probably do best by learning the wants of his trade instead of trying to educate the trade into a realization of what it should have. I know dairymen who will readily pay sixteen to eighteen dollars a ton for cotton-seed "feed," made up of three hundred pounds

Gluten meal and gluten feed are both valuable.

The richness and concentratedness of the three meals mentioned make their values most pronounced when used with plenty of farm forage—silage, hay and fodder, ground barley, corn and oats. Gluten feed, dried brewers' grain, wheat bran and the other more bulky mill by-products help out in filling the cow—and the cow must be filled—when the farm-grown feeds are scarce.

There are various and numerous mixtures, in the shape of "ready-made" "complete" rations, in which the benevolent manufacturer or mixer of feeds has done all the work of combining in just the proper proportions exactly the feeds and things the old cow needs, and all the dairyman has to do is to haul it home and pay for it and the thing is done. As a rule the economical dairyman will find these feeds very good to let alone. It will pay him better to mix his own brains and experience and cow observation in a more domestic ration rather than pay for the brains and ingenuity of some fellow in an office.

W. F. McSPARRAN.

STARTING HOGS ON CORN

In our efforts to rush the hogs to maturity we are often tempted to overfeed the hogs before they are properly seasoned to heavy feeding. After a hog has



HUNTERS JUMPING FENCES

of some kind of cotton-seed meal and seventeen hundred pounds of cotton-seed hulls, and would not think of paying thirty or thirty-two dollars a ton for pure, unadulterated cotton-seed meal. They will buy bran at twenty dollars, and regard linseed-oil meal at thirty-two dollars an utter impossibility, while some of them will feed considerable "stock foods" at from five to ten cents a pound.

This statement of the commercial aspect of the case is in no wise depreciatory of the correspondent's most commendable and unusual desire to keep for his customers those feeds most worth their money.

Cotton-seed meal is probably our most concentrated feed, and when fed in connection with roots and silage is one of our best.

Linseed-oil meal is always good and safe fed in any combination. It is not only a feed, but a corrective, a tonic. It is not a medicine, but an agent keeping the cows from needing one.

been fed corn for a few weeks and comes up to a full feed ration of corn there is little danger of overfeeding; but if fed too much at the beginning of the fattening season we are very apt to spoil the hog's appetite and give the animal a setback from which he will not recover for several days, and perhaps weeks.

A clover pasture is a great help in fattening hogs; or, if this is not available, a few pumpkins or green apples will be helpful in keeping hogs from losing their appetite for corn. Excessive fat is an abnormal condition which prepares the hog for slaughtering, but unless the animal is intended for slaughtering it impairs the health of the animal.

A. J. LEGG.

A good subscriber reads the advertisements in his paper as well as the other reading matter, and if he sees any that interest him he answers them. FARM AND FIRESIDE advertisers are sure to please.



Chase

STRICTLY PURE ALL

White Lead Paint

MADE FRESH TO ORDER

O. L. Chase

Two Full Gallons Free to Try. Sold on Time. Purity Guaranteed. Freight Prepaid.

I am the Paintman. I make Paint to order—for the individual user.

I sell it direct from factory—at factory prices.

I ship it in special extra size cans—guaranteed to contain full measure of paint.

These cans are dated the day the paint is made—your guarantee that it is absolutely fresh when you get it.

Out of any six-gallon order or over you may use 2 gallons on your buildings.

Then stand off and look at it—test it in any way you like.

If it is satisfactory—use the balance.

If it is not satisfactory—return the balance—I'll refund all of your money—pay the transportation charges both ways—and the test shan't cost you a penny.

That's my way of selling my Made-to-Order Paint.

I'm the only paintmaker in the United States selling it that way.

I'm the only paintmaker in the United States making paint to order.

My paint will please you—it's got to please you. You are the judge—and if it doesn't it shan't cost you anything.

There's no question about the purity of my paint—no question about its high quality. There can't be—because it's made from the pure materials—the best it is possible to buy.

My O. L. Chase Strictly Pure White Lead Paint—The Roll of Honor Brand—an all white Lead paint—is made from strictly pure Old

Dutch Process White Lead—strictly pure, well settled, aged, raw Linseed Oil made from Northern grown selected flax seed—pure Spirits of Turpentine and pure Turpentine Drier and the necessary tinting colors and nothing else.

This paint stands the tests of any chemist—this I guarantee under \$100.00 cash forfeit.

I will give that sum of money to any chemist who will find any adulteration in this paint.

It's just what its name implies—the Roll of Honor Brand.

It meets all of the requirements of the State Pure Paint Laws and more.

I challenge the world on this Roll of Honor Brand—and as I make it to order for each individual user—ship it fresh as soon as made that you may get all of its life right on your buildings—it's assuredly the best paint in the world to buy.

I want to tell you more about my Made-to-Order paint proposition—want to send you my Big Fresh Paint Book, together with samples of colors to choose from—and tell you all about my

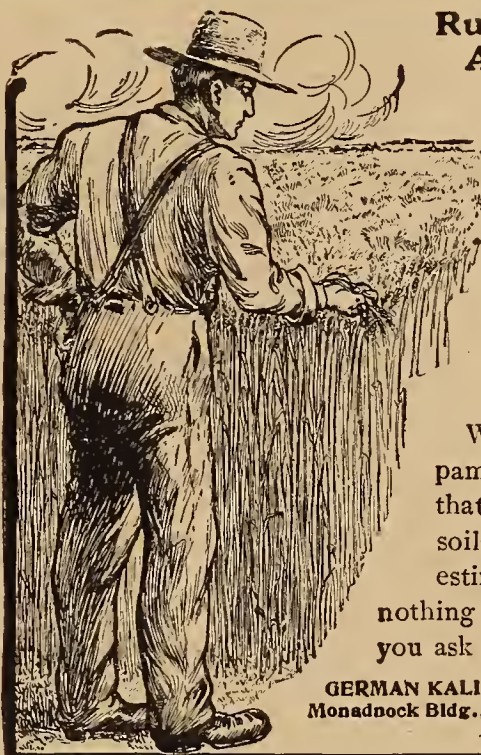
Three Great Chase Made-To-Order Paints

My Roll of Honor Brand—my 40-60 Lead and Zinc Paint—and my O. L. Chase Durability Paint.

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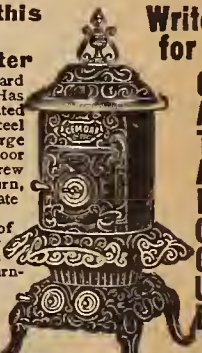


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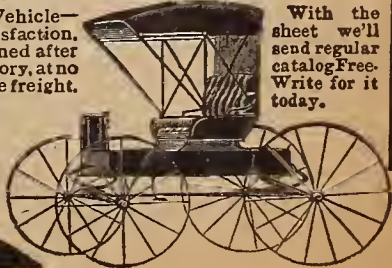
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THE STANDARD OIL FINE

Judge K. M. Landis of the United States Circuit Court has imposed a fine of \$29,240,000 on the Standard Oil Company as a penalty for taking freight rebates from the Chicago & Alton Railroad in violation of the interstate commerce law. In amount this fine is unprecedented in the annals of criminal jurisprudence, but, considering the enormous business of the company, its vast accumulation of ill-gotten wealth, its persistent, long-time violation of state and federal statutes, and the arrogant, insolent, sinister genius of its management, it is hardly large enough to act as a deterrent from future law-breaking by the company.

On this point Judge Landis says:

"The defendant argues that to hold it for 1,462 offenses would be a violation of the constitutional prohibition against the imposition of excessive fines, and it is urged that Congress could never have intended to confer upon the court such power. It is the view of the court that for the law to take from one of its corporate creatures as a penalty for the commission of a dividend-producing crime less than one third of its net revenues accrued during the period of violation falls far short of the imposition of an excessive fine, and surely to do this would not be the exercise of as much real power as is employed when a sentence is imposed taking from a human being one day of his liberty."

"The law prohibiting preferential railroad rates was passed twenty years ago. Its adoption was preceded by vigorous opposition interposed by those who had been the beneficiaries of the vicious practices its enactment was designed to abolish. Immediately thereafter these persons set about to devise means for its evasion. The records of the courts and of the interstate commerce commission show the employment of a large variety of schemes to accomplish this result. During the period since 1887 Congress has repeatedly endeavored to effectively amend the law with a view to the accomplishment of its great object. Finally in 1903 the Elkins law was passed."

"The court recalls that at that time the earnest hope was very generally entertained that at last a means had been devised that would put an end to preferential railroad rates, and yet beginning a few months thereafter the Standard Oil Company procured 1,900 carloads of property to be shipped at an unlawful secret rate."

"And for this offense the Elkins law authorizes punishment only by fine, an obvious defect, remedied, however, by the present law, which prescribes imprisonment in the penitentiary for the like offense. However, it is the business of a judge to administer the law as he finds it rather than to expatiate upon the inadequacy of punishment authorized for its infraction."

But no one need worry any about this apparently enormous fine being a hardship on the company. The Standard can pay it. In anticipation, for some months past by a special increase in the price of oil, by short measure in retailing from tank wagons, and by selling inferior grades at the prices of the better, it has been busy collecting the fine from the people. By the time the case is decided in the United States Circuit Court of Appeals it will have accumulated more than enough extra to pay the fine without drawing on its annual net profits of from \$40,000,000 to \$80,000,000. And it will also be able to pay the fines on 10,000 more counts that are hanging over it.

Now, we are not joking about short measure. The very day Judge Landis rendered his decision in Chicago, the Standard plead guilty and paid fines in Indianapolis for cheating consumers by giving short measure. And there is evidence that this practise is general.

Commenting on an excuse offered by the Standard for its illegal practise of accepting rebates, Judge Landis says:

"It claims its offenses were wholly technical; that nobody was injured because there were no shippers of oil, and that therefore its punishment should be a modest fine. It is novel indeed for a

convicted defendant to urge the complete triumph of a dishonest course as a reason why it should go unpunished. Of course there were no other shippers, nor could there be when through secret agreements the Standard Oil property was hauled for one third of what any one else would have to pay."

"The only way for competitors to stay in the oil business would be to adopt the practices of this defendant."

"The conception and execution of such a commercial policy necessarily involves the contamination of subordinate officers and employees. We might as well look at this situation squarely. The men who thus deliberately violate this law wound society more deeply than does he who counterfeits the coin or steals the letters from the mail."

STANDARD OIL INVESTIGATION

The concise, comprehensive and accurate report of Mr. Herbert Knox Smith, Commissioner of Corporations, completely disposes of the old false claim of the Standard Oil monopoly that it has reduced the price of oil and been a benefit to consumers. After a most thorough investigation into the operations of the Standard and the course of petroleum price Mr. Smith says:

"The Standard has repeatedly claimed that it has reduced the price of oil; that it has been a benefit to the consumer, and that only a great combination like the Standard could have furnished oil at the prices that have prevailed."

"Each one of these claims is disproved by this report."

"The Standard has consistently used its power to raise the price of oil during the last ten years, not only absolutely but also relatively to the cost of crude oil."

"In short, it may be said that the great decrease in prices which took place in the period from 1866 to 1874 was due to competitive conditions, while the much smaller decrease that took place from 1874 to the present under the domination of the Standard has been due to conditions over which the Standard had no control, has been more than offset by increase in the value of by-products, and cannot be placed in any way to the credit of the Standard Oil Company."

"The Standard can claim no credit for such reduction in prices as has taken place since the early history of the industry. If the few and small independent concerns that now exist, harassed and restricted as they are by the aggressive price cutting of the Standard, by its unfair competitive methods, and until recently by a widespread system of railroad discrimination heavily handicapping all of its competitors, nevertheless can and do sell oil profitably for less than the Standard charges, it inevitably follows that had the industry followed the normal course of development and had no great combination arisen to exercise substantial control therein, prices to the consumer would have been much less than they actually are or have been."

EXCESSIVE PROFITS

After presenting figures which show conclusively the effect of the domination of the Standard on the amount that the public pays for oil, Mr. Smith says:

"Naturally an increase has also taken place in the profits of the Standard by reason of this price policy. The increase in annual profits from 1896 to 1904 was over \$27,000,000."

"The total dividends paid by the Standard from 1882 to 1906 were \$551,922,904.50, averaging thus 24.15 per cent a year. The dividends, however, were much less than the total earnings. Exact information as to these earnings is available only for the years 1882 to 1896 and for the years 1903 to 1905, inclusive, an aggregate for these years of about \$714,000,000; but from these figures the earnings for the other six years may be estimated with some degree of correctness, and it is substantially certain that the entire net earnings of the Standard from 1882 to 1906 were at least \$790,000,000, and possibly much more."

"These enormous profits have been based on an investment worth at the time of its original acquisition not more than \$75,000,000."

HOW ITS MONOPOLY IS MAINTAINED

Tracing the real source of the Standard's power to its unfair and illegal practices, Mr. Smith says:

"The question arises how the Standard is able to maintain its substantial monopoly while still charging such prices. What, it may be asked, is to prevent independent concerns from either taking away part of the Standard's trade or forcing it to reduce prices? The answer to this question is found in the unfair practices of the Standard."

RAILROAD DISCRIMINATION

"The most important of these, the cornerstone on which the Standard's power was first built up, was railroad discrimination. The Standard was able to maintain in position this primary support of its domination down nearly to the present time—that is, until its system of preferential freight rates, secret or open, was exposed by the report of this Bureau on the Transportation of Petroleum in May, 1906."

"The difference between the rates charged to the Standard by the railroads and the rates charged to independent concerns for similar service has in many cases and for enormous areas been alone greater than a fair profit."

OTHER UNFAIR METHODS

"Almost equally effective in maintaining the Standard's position have been its unfair methods of competition in the selling of products. The immense importance of the practise of price discrimination in restraining the business of competitors and augmenting the aggregate profits of the Standard will be set forth later. The Bureau has also secured a great mass of evidence regarding other unfair practices of the Standard, most of which, however, are simply auxiliary means of rendering price discrimination effective. Thus, the Standard maintains bogus independent companies and thereby is able to escape the disadvantage due to anti-trust sentiment, as well as to cut prices to the particular customers of competitors without incurring the further loss of cutting prices to the entire trade in the locality. Again, the Standard maintains an elaborate system of espionage on the business of independent concerns, in particular securing almost complete reports of their receipts and shipments of oil by the bribing of railroad employees. This practise enables the Standard to direct its policy of local price cutting in the most effective manner. Other less important methods of unfair competition pursued by the Standard are the giving of short measure and deception regarding the quality of the oil sold."

"Without railroad discriminations and unfair methods of competition the Standard could never have maintained its great proportion of the oil business in the United States while at the same time extorting such immense profits from the American consumer. The claim of the Standard that its control of the business is due to its ability to maintain low prices because of superior efficiency is a complete misrepresentation of the facts."

THE FACTS PROVEN

Summarizing the results of the investigation, the most comprehensive of the kind ever undertaken by the government, Commissioner Smith declares the following facts proven:

"The Standard has not reduced margins during the period in which it has been responsible for the prices of oil. During the last eight years covered by this report (1898 to 1905) it has raised both prices and margins."

"Its domination has not been acquired or maintained by its superior efficiency, but rather by unfair competition and by methods economically and morally unjustifiable."

"The Standard has superior efficiency in running its own business; it has an equal efficiency in destroying the business of competitors. It keeps for itself the profits of the first and adds to these the monopoly profits secured by the second."

"Its profits are far above the highest possible standard of a reasonable commercial return, and have been steadily increasing."

"Finally, the history of this great industry is a history of the persistent use of the worst industrial methods, the extraction of exorbitant prices from the consumer, and the securing of excessive profits for the small group of men who over a long series of years have thus dominated the business."

Before the bar of public opinion Standard Oil now stands convicted as chief of the Black Hand in the business world.

PROGRESS OF CANADIAN AGRICULTURE

A summary of the agricultural possibilities and actualities of our neighbor Canada is given in a recent consular report. It is based on information supplied by the American consul, at Three Rivers, Quebec, Mr. James H. Wornian. We quote briefly:

"It is the general impression that lumbering is the principal industry of Canada, but if the export figures for 1906 are to guide in this matter the returns of the export of agricultural products exceed those of the forest by \$20,826,654, agriculture being credited with \$54,062,337, against \$33,235,683 for the forests. It appears from the returns; that despite the fact that Canada has made such progress in dairying and now exports about \$32,000,000 worth of butter and cheese, she imported to the extent of more than \$100,000 of these products, of which the United States furnished over half."

"Within recent years the provincial government has taken great pains to educate the husbandman in his profession. In 1906 hogs were distributed for breeding purposes to improve that class of animals. The pedigrees of the French horse were made the subject of special investigation; other classes of work horses were imported for breeding purposes. Sessions for instruction in husbandry, and especially in dairying, were held all over the province, and as a result great advances were recorded."

"It is claimed that the enormous development of the grain-producing north-western provinces will make Canadian agricultural interests the prevailing influence in any adjustment between the United Kingdom and the United States. A commercial union with the United States is favored by the new producers of the Northwest, whose influence is beginning to dwarf that of the older portions of the dominion. But even in this province during the tariff-revision conferences it became evident that the farmers controlled public sentiment, and the reductions made in the tariff favored especially the husbandman. He can now supply himself with tools and machinery at much lower rates than formerly."

"There is no question that the largest percentage of the amount at present on deposit in Canadian banks (some \$750,000,000) is controlled by the agricultural community. This vast amount is in addition to the large sums on deposit with trust and loan companies and in farm mortgages, for it is well known that in recent years the aggregate of farm mortgages, in Ontario and Quebec particularly, has been decreased. The farmers to-day as a class are not borrowers, but lenders. This is markedly so in this province."

"Turning to the other side of the banking returns, it is observed that current loans and discounts, which represent the volume of money employed in the manifold industries of the country, have increased in just about the same ratio as the deposits. In other words, the manufacturers of the country and those engaged in other lines of activity are borrowing the capital required in their various enterprises from the farmers."

The Times That Are

BY IDA EUGENIA QUAINANCE

Some tell us that the old times
Were better than to-day,
That looking backward they can see
More joys in the old way;
But retrogression doesn't suit
Us now, and didn't then;
"Go forward" was their battle cry,
"Make room for other men."

Now we can have improvements
Of which they only dreamed;
We've carpets, pictures, curtains,
Our doors and windows screened;
We've R. F. D.'s and telephones,
And splendid highways now—
To tell it would take me
Till age had marked my brow.

One thing I know, the wee ones
That play about our door
Are just as good and pure as
The ones that lived before.
As for the girls, God bless them!
They're just as sweet to-day
As the flowers that bloom around the home
Of the girl of yesterday.

It may be that the old songs
Will always seem the best;
Our life was at its fullest when
They lulled us to our rest.
And when we're gazing backward
Through this life's light and shade,
The colors of our springtime
For us seem not to fade.

All honor to the old times,
Times now, and those to be,
Soon time itself will be no more,
Lost in eternity;
But while the zest of living
Is in me, it shall be
The times that are, and folks that are,
That's good enough for me.

"Uncle Joe" Cannon and His Grandchildren

BY MANTON MARLOW

IT is doubtful if there is a more popular man in our country than "Uncle Joe" Cannon, as he is called by common consent, although he fills the exalted position of Speaker of our great national House of Representatives. The simplicity of his character may be in part due to the fact that he was born in a small Quaker settlement in North Carolina and grew to manhood in another settlement of Quakers in Indiana. This was in the days when the Quakers, or Friends, had not departed from the simple ways of life that was once such a marked characteristic of this religious body. Plain living and high thinking are not so much a part of the life of the Quakers as they once were. Now they are a good deal "like other folks" in their dress and manner of living. But "Uncle Joe" Cannon has never outgrown his liking for the ways of village folk, and he said not long ago:

"I don't know that I can say anything to add to the truth of the statement that there is no place like the country, the small community, or, as it is better called, the village, for the true enjoyment of life and the development of character. My entire life has been closely linked with small towns. I was born in the country, I was raised in a village, and my early life was near to the soil. I love everything connected with the life away from the great centers of population."

One hears a good deal said about the "narrowness" of village and country life and the restricted outlook of the people who dwell in this kind of an environment. Surely the opinion of a man of Uncle Joe Cannon's position in life is of some value, and he says:

"I have made many campaign tours during the past thirty-five years, and have always found that the most exacting, the most intelligent, audiences to be found anywhere are in the villages. The people there have more leisure to read and to think than in the cities. It seems to me that the race is better and stronger, as well as happier, on the farm and in the village and in the smaller cities substantially, where everybody knows every other body and each individual prospers according to his material and mental strength."

This will confirm the opinion of a good many people that there is much foolish talk about the "narrowness" and the "ignorance" of dwellers outside the great cities, where there is really as much narrowness and ignorance to be found as in almost any other part of the country.

Although the duties of his official position in Washington make it necessary for Mr. Cannon to enter quite actively into the social life of Washington, and he must do a good deal of formal entertaining, he has never outgrown his Quaker-like fondness for the simple life, and he is never so happy as when he is in his own home in Danville, Illinois, where he has lived for a great many years, and where he knows everybody and everybody knows "Uncle Joe." He does not in the least resent the familiarity of those who call him "Uncle Joe," even though he may not know just who they are. It is a title of endearment in his case. "Uncle Joe" says that he likes best to live where he can say "how are" to his neighbors, and it is possible for one to live years in the



city without knowing just who one's neighbors are.

"I tell you I just love the ground," said "Uncle Joe" one day not long ago. "I love its very touch and smell. It gives me moral and physical strength to come into close contact with Mother Earth. I think that I am of the earth, earthly."

Mr. W. R. Jewell, postmaster in Danville, has written a life of Mr. Cannon, which has not yet been published, because Mr. Cannon does not want it to appear

clothing. But when the duties of his position as a guest at some formal affair require that he should be dressed "jess so," he rises to the occasion and looks as well as the next one.

Mr. Cannon has long been a widower, and his daughter, Miss Helen Cannon, presides over his home in Washington and in Danville. Miss Cannon is a lady of great refinement and force of character, and she is entirely devoted to her father. Mr. Cannon is an ideal "gran'pa." He



BUILT BY THE INDIAN FOOTBALL TEAM OF CARLISLE, PENNSYLVANIA

during his lifetime. In this book Mr. Jewell tells this story:

"A few years ago Mr. Cannon went to Annapolis and Bloomingdale, two Indiana villages where he spent his early life, and which he calls the 'old stamping ground.' All were delighted to see him. This one and that one spoke to him and told him who they were, for many are yet left who played with him on the old schoolground. Finally a lady with silvery hair came up, and said, 'Mr. Cannon, I don't believe that you will remember me.' Mr. Cannon took her by the hand, and said, 'Stop. Don't tell.' After looking at her intently for a moment or two he said in Quaker vernacular, 'Yea, yea, Ruth; verily, I know thee, and the spirit moves me to kiss thee.' Then they kissed each other like two children, amid the cheering and the hilarity of the onlookers."

If ever there was a man who is of the opinion that clothes do not make the man, it is "Uncle Joe" Cannon, and he never enjoys being "dressed up," but likes to wear old clothes, and particularly old hats, to which he has become attached by years of association with them. A new hat gives him no pleasure, and he feels that "old things are best" when it comes to

thinks "the world and all" of his grandchildren, and the happiest days of his life are spent with them. He is now one year beyond threescore and ten years of age. He was once asked for some biographical data about himself, and he gave it in these words:

"Mr. Cannon was born of God-fearing and man-loving parents. He made himself, and he did a very poor job of it."

But those who know "Uncle Joe" best do not agree with him in regard to this.

Interesting Korea

THE appearance of the Korean delegation at The Hague Peace Conference was the signal for renewed anti-Japanese disorder in Seoul, the capital of the Hermit Kingdom, and the refusal of the conference to receive the Korean delegates was a seemingly death knell, for the demand that the Emperor abdicate immediately followed.

The sending of these delegates to The Hague endangered the national welfare of Korea, since by the treaty of November, 1906, all the foreign affairs of Korea came under Japanese control. The abdication ceremonies took place on July 19th

at the Imperial Palace in Seoul, and was formal acknowledgment to the world of Japan's full control of the country.

To the world traveler Korea is one of the most interesting of the Asiatic countries, due in a great measure to the unique customs governing the every-day life of the Korean.

The language of Korea is mixed. The educated class use Chinese as much as possible in conversation, but it is a form of Chinese used a thousand years ago, and differs completely in pronunciation from Chinese as now spoken in China.

Funerals usually go through the streets at dusk with a great display of colored lanterns and of banners. Music is made by means of fifes and drums.

The Koreans sleep on mats spread upon the floor, using wooden blocks for pillows. There is little furniture, chairs being almost unknown.

An unmarried man in Korea wears his hair braided down his back; a married man wears his twisted up in a knot.

The men wear cotton robes with big sleeves, huge trousers, and socks that are padded. On their heads are black silk or black horsehair wadded caps with pendant sides edged with black fur, and on top of these the high-crowned hats. These hats are tied under the chin with ribbon.

The Koreans have from time to time manifested a strong liberty-loving spirit, and the abdication of their emperor has been a sad blow to them. Strong in their belief of the injustice of the Japanese demands, many lives have been laid upon the altar of sacrifice, and there will be many more, for the inborn patriotism of the real Koreans is such as only the giving up of their lives can subdue.

An Indian Art School and Museum

THE results of the attempts to educate the Indian in our country have been more satisfactory than many thought they could or would be when the government first undertook this work. The wonder is that so many of our Indian boys and girls have been able to adapt themselves to the conditions of the schoolroom, with all their generations of ancestors back of them who have loathed the white man's way of living. The industrial education of the Indian has appealed more to the Indian because so many of the industrial pursuits are carried forward out of doors, and the Indian is better adapted to labor with his hands than with his head. But some of the Indian youth have been excellent scholars. The writer has before him now a long letter just received from a full-blooded Chippewa Indian, and it is doubtful if any young white man of the age of this Chippewa Indian youth could pen a better letter. A visit to any of our United States Indian schools will give one abundant proof of the fact that the Indian is capable of great mental and physical development.

There stands at the entrance to the great United States Indian Industrial School at Carlisle, Pennsylvania, a unique new building with a bit of history back of it well worth repeating. It is the Leupp Indian Art Studio, and there is no building at Carlisle of which the Indian students are so proud, because it is not only the work of their hands, but every dollar of its cost was earned by the Indian football team of the school. The building is an art school and a museum of Indian curios, and the football team earned the money for its construction last year. They bought the stone, the glass and all other needed material. Then they went to work with other Indian boys at the school and put up the building themselves. The carpenter work, the doors, sashes and all the mill work of the building were turned out in the shops of the school by the boys themselves. Even the plumbing and heating arrangements and the painting and decorating are the work of the Indian students.

The interior of the building is very gay with the bright-hued Navajo blankets for which there has been such a craze in recent years. Some of the blankets woven by Indian women are wonderful pieces of weaving. They are woven so closely and are so thick that they will hold water like a bucket, and there is no "wear out" to them. Spread on the tables in the museum are fine specimens of Indian needlework, basketry, ornamented saddles, drawings, paintings and work in burnt leather, showing that there is a great deal of artistic ability in the Indians. They seem to have a wonderful eye for color effects, as may be seen in the combinations of color in the weaving of the Navajo blankets.

The museum is in charge of a Chippewa Indian named Alfred M. Venne, who also conducts a large Bible class and is an enthusiastic member of the Y. M. C. A. of the school. The building has been named the Francis E. Leupp Indian Art Studio, in honor of Commissioner Francis E. Leupp, who is one of the best friends the Indians have ever had, and who feels that every dollar spent for the education of the Indian has been well expended.



SPEAKER JOE CANNON AND HIS GRANDCHILDREN



By MORRIS WADE

"Set! Don't mention it! The Rock of Ages ain't any more set than Philander Trott was!"

Cyrilla Fosdick held her needle up between her eyes and the window and squinted one eye in her efforts to thread the needle.

"No use talking, I've got to put on specs pretty soon," she said. "The wonder is that I ain't had to do it sooner, what with me being a seamstress for nearly thirty years and sewing on all sorts of stuff that try the eyes. But I've held off as long as I could, for I do think that specs must be an awful nuisance, and I pity them that has to wear 'em most of their days. Little Susie Day has 'em on for life, and her only ten years old. Say what you may, I don't think folks have as good eyesight now as they used to have. Old Dock Britten says its coffee in lots of cases. You want this little ruffle cut bias or straight?"

Cyrilla was the village seamstress, and her tongue was as nimble as her needle. She boasted that she was not one to "fetch and carry," which, interpreted, meant that she disdained gossiping about her patrons, and kept discreet silence regarding what she saw in their homes; but the settiness of old Philander Trott had been a matter of such common information and comment that Cyrilla felt that she was not betraying any confidence by speaking of it.

"Ev'rybody knows that he was dreadful set, and yet a body had to know by experience some of the lengths to which he could go to understand just how set he could be. When a man brags that he has wound his clock the minute after it has struck nine ev'ry night for fifty years, and put the cat out the minute the clock was wound, and locked his door at a quarter past, you can put it down that that man is some set in his ways. Then when he changes from light to heavy flannels on the fifth day of November of each year, and back to flannels on the fifth day of May, and no power on earth could make him change 'em a day sooner or later, you can bank on it he is set in other things, and that there has got to be a lot of giving up on the part of others in his house or some clashing with him. Philander Trott was just that set. I was sewing there one time on the first day of October. It was an awful day. The rain was coming down in sheets and the wind was a reg'lar gale. I'd been there two or three days. Philander wasn't a bit well. I'd heard him coughing all of the night before, and he looked dreadful slimy when he come down to breakfast. His wife was real worried, and was in for having the doctor sent for, but he wouldn't hear to it, and right after breakfast he changed his slippers for his boots and begun to get ready to go out.

"Why, Philander," said his wife, "you surely have no idea of going out even as far as the barn such a day as this in your state of health! You mustn't think of such a thing!"

"Mustn't, hey?" he snorted. "You know what day of the month this is, Mary Trott?"

"Why, it's the first day of October," says she.

"Yes, 'tis, and I've gone into town and paid my taxes the first day of October ev'ry year for forty-three years, and I mean to go in and pay 'em to-day."

"Now, Philander, it is four long miles to town, and the top buggy is at the repair shop, and you'll have to ride in the open democrat wagon, and an umbrella won't be any protection such a day as this. You can pay your taxes a month from now and—"

"I'm going to pay 'em to-day," he says short and sharp, and he did. He nearly got his death doing it, and was sick in bed five weeks, and had a big doctor bill to pay. That's just how set he was.

"Now one of the evils of a man being as set as Philander Trott is that if he has children they are in danger of being just as set as he is, and then there is sure to be trouble, speshly when the father sets in to break the child's will, as he calls it, and doesn't try to put his own unbroken will under any restraint. Philander had only one child, a pretty blue-eyed, meek-looking little thing named Lucy May. You never saw a meeker-looking little thing than Lucy May was with her yellow curls and her big, innocent-appearing eyes and her quiet little ways. But it all showed just how deceptive looks can be, for of all the youngsters that ever stood out like

rock for her own way, that Lucy May was the beater. She never made the least bluster about it, and didn't waste any words in back talk, but when she made up her mind to do a thing or not to do a thing, nothing could budge her from her decision. I tell you but Lucy May and her father had many a set-to when she was a little bit of a thing, and Lucy May won out about as often as her daddy. Fierce as Philander was to have his own way, and determined as he was to break her will, he never descended to the low estate of really beating the child. Meeching as his wife was, I reckon she never would have stood for anything like that. He would shake the child pretty hard sometimes, and slap her hands, and once I remember he got a little willow switch and told her he would switch her if she didn't do a certain thing. She never said a word, but when he come near enough she snatched that switch from him and broke it all to pieces, and stalked off with her eyes blazing and her head held up in a way that was just comic in a little youngster ten years old. It's my opinion that her father was real proud of her grit at times, and I saw his grim old mouth sort of twitch in a half grin when Lucy May turned in the open doorway, and said, 'Any man who would strike a woman is a coward, and I know that you are not that, daddy!'

"She always called him 'daddy,' and he liked the name. Well, they clashed and clashed and yet it was plain to see that they thought a lot of each other. Fact is, Lucy May was the apple of her daddy's eye when she was about eighteen. She was as pretty as ever they make 'em and dreadful smart. She was one of those girls who have faculty, and she could turn her hands to all sorts of things. Her father sent her to the academy over in Hillsboro for two years, and she came home with all sorts of pretty ways and graces, but with none of her will power gone.

"You know that big yellow house over on what they call Zion's Hill? Well, the Ryders lived there, and if there was a name on this earth that was a stench in the nostrils of old Philander Trott, it was the name of Ryder. He hadn't spoken to a member of the family for twenty years. It all grew out of an old lawsuit in which Sam Ryder won, and Philander registered a vow on high that no one of the name of Ryder should ever cross his doorstep, and that he would never speak to any one of that name. He even went so far as to say that he would work the Ryders all the harm he could, and he came nigh being church mauled for that; but Sam Ryder was good-natured, and he himself called that off when the elders of the church would have haled Philander before them.

"Well, I was making Lucy May a real

sweet, pretty buff shally-delaine dress with little green leaves and pink rose-buds in it. It was three or four weeks after she came home from the academy. She'd been down to the village, and I remember how lovely she looked with her flushed pink cheeks and her yellow curls kind of matted down with perspiration on her white brow. She wore a wide sundown hat with blue ribbon strings, and she came in just as we were sitting down to dinner. She was a little careless about her things, and she gave her hat a fling onto a chair at one end of the room, and said in the most careless way, 'Daddy, what do you think, Fred Ryder and I are going to get married.'

"It was the first time the name or Ryder had been mentioned in that house in more than twenty years, and the effect on Philander Trott was almost comic, only I was scared lest he have apoplexy. He turned white as a sheet and then green and then purple. He let his knife and fork clatter down into his plate, and shoved back his chair while he gripped both sides of it. And his eyes! He had the deepest-set eyes I ever saw, and great shaggy eyebrows. Them-eyes of his flashed fire if ever eyes did, and it seemed to me that he was gritting his teeth. His wife was all of a tremble, but Lucy May didn't seem to pay the least attention to his actions, or to the blue-and-black cyclone clouds hovering near.

"What! he sort of hissed out at last.

"Why, Fred Ryder and I are going to be married. He was at the academy all the time I was, and the year before. He's a dear, Fred is, daddy. You ought to be glad and proud to have him for a son-in-law."

"Then Philander stood up, trembling from head to foot. His arm was all a-quiver as he pointed to the open door, and said in a voice that was enough to cuddle the blood in one's veins, 'You unsay them words, Lucy May! Unsay them, and promise me here and now that you will never speak Fred Ryder's name again or see him, or you walk out of that door and never come back into this house while you live! You hear me!'

"Poor Mrs. Trott hid her face in her hands and begun to cry, but Lucy May stood up as stiff and straight as her father, and her voice was a good deal steadier than her father's when she said, 'Oh, very well, daddy. I'll go.'

"She went around the table and offered him her hand in good-by, but he struck it the hardest blow he had ever struck her in his life. She stooped and kissed her mother, saying with a little quiver in her voice, 'Good-by, mammy. I guess daddy will come around all right in time, and you and I will always be good friends. Good-by, Cyrilla. Remember that I want three flounces on my new dress, and I want them bound on

both edges with apple-green ribbon just the shade of the green in the dress goods. You can leave the dress at Aunt Ellen's in the village.'

"She picked up her hat and walked out, and her mother left the table and went into her bed room, and I could hear her sobbing in there. As for Philander, he ate his dinner in grim silence, and when he was through, he says in a frost-bitten sort of voice to me, 'You finish her dress as she wants you to, and I wish that you would help her mother pack all of her other clothes and send them to her Aunt Ellen Packard's. And if you should come here to sew any more, you will oblige me by not speaking her name. It is a forbidden name in this house from this hour henceforth.'

"Lucy and Fred Ryder were married without any fuss and feathers at her Aunt Ellen's house the next day. This Aunt Ellen had always sided with Lucy May, although she was Philander's own sister. Moreover, she liked Fred Ryder, and so did every one else. Fact is, Lucy May told her daddy the truth when she told him that he ought to be proud to have Fred for a son-in-law. He was one of the handsomest and smartest and manliest young fellows in these parts, and he hadn't had a thing to do with that old row between his dead-and-gone father and Lucy May's father. Most every one who knew the facts in the case felt that Philander Trott had been in the wrong. But that never lessens the bitterness when one is defeated in a lawsuit. It only made matters worse in a set thing like Philander.

"Fred and Lucy went over to Hillsboro to live, for Fred had engaged to teach a year or two in the academy, although he meant eventually to take a nice little sum he had inherited from his father and buy a farm and go to farming on real scientific principles, but he hadn't found a place that just suited him, so he thought he would teach a while first. Lucy May's mother braved Philander's wrath to the extent of going to see Lucy two or three times a year. She never said a word to her husband about her visits excepting once, and that was when Lucy May had been married about two years. Then one day, when she came home, she said to Philander, 'You have a little grandson, Philander.'

"I have nothing of the sort! he snorts out. 'And I never will have one!'

"Then Lucy May's mother gave up all hope of a reconciliation, and I guess she shed a good many bitter tears over it. One day most a year later Philander and his wife were driving along the road four or five miles from home in a neighborhood they seldom visited, and suddenly a boy on a bicycle came around a sharp curve. It was a day or two before the Fourth of July, and the boy carried a good-sized flag he had bought in town, and the flag or the bike frightened the horse, and he jerked the reins from Philander's hands and was off down the road like the wind. There was another curve in the road a few rods further on, and when the runaway horse rounded this curve, over went the buggy, and Philander struck a stone wall and was terribly hurt. One leg was broken and his back hurt, and he was unconscious when they picked him up, and he stayed unconscious for most a week. His wife went clean over the wall and landed flat on a haystack of new-mown hay, and wasn't hurt the least mite, only shuk up awfully.

"Some men working in a field came a-running and picked Philander up and carried him into the nearest house, and there he lay five long weeks in a strange house, suffering a great deal and chafing because he was among strangers and making a lot of trouble. He had a trained nurse out from the city, and his wife stayed with him. It was a week before he had his wits back enough to sense things much, and then the doctor wouldn't let him see any one but his wife and the nurse. In two weeks he was able to see a Mrs. Rice, who lived in the house, and he was mighty humble and subdued over being flat on his back in a stranger's house. But this Mrs. Rice she told him it was all right and not to worry in the least and to ask for anything he wanted. One day, when she came into the room, she carried in her arms about as sweet and pretty a little baby boy as you ever laid eyes on.

"I thought he might amuse you for a few minutes," she said, as she sat down



"Then Philander stood up, trembling from head to foot. His arm was all a-quiver as he pointed to the open door, and said in a voice that was enough to cuddle the blood in one's veins, 'You unsay them words, Lucy May! Unsay them!'

on the edge of the bed with the child in her arms. 'Isn't he a little beauty? He's my nephew's boy.'

"He is, for sure," said Philander. The fact was, he had a real soft spot in his heart for babies and children, gruff as he seemed. Some men are that way. Then being as near to the valley and the shadder of death as he had been had softened him up a bit, and I reckon it had made him view some things in a new light. The next day if he didn't ask if that baby couldn't be brought in again, and the nurse told me afterward that it was curious to see how that little youngster seemed to find its way to the heart of Philander Trott. Four weeks passed, and Philander could sit up a little in a chair and was planning to go home. He was to go on Saturday, and the day before, when he and his wife were alone in the room, he blurts out all of a sudden, and he says: 'See here, Mary; I don't want any hysterics or anything of that kind over it, but I want you to get some paper and pen

and ink and write to Lucy May and tell her to be at the house with that youngster of hers when we get home. I never was a man of many words, and I'm not going to try to explain just how that baby that has been such a pleasure to me since I have been here has made me see things different. That's neither here nor there. You just write and tell Lucy and—and—Fred to come home to daddy with that baby. I'm too old a man and have been too near death's door to hold spite any longer. Now bring in that baby—the cunningest little chap I ever laid eyes on. Its about time that I came to my senses. I've been all wrong in this. All wrong.

"A moment later the baby came in snuggled up in the arms of Lucy May herself, and behind her walked Fred, tall and handsome and smiling.

"Here we are, Father Trott," says Fred, and Lucy stooped and kissed the old man, and said, 'Yes, indeed, daddy; here we are, and isn't the baby a dear? Of

course you couldn't resist him. Who could?'

"But I—I—I don't understand," said old Philander. 'I thought you lived over in Hillsboro.'

"We did until about three months ago, when Fred bought this place, and we have had our residence here ever since," said Lucy.

"But Mrs. Rice? I thought that she lived here and that—"

"Oh, she does live here. She is an aunt of Fred's, his mother's sister from the West, who is going to stay a year or two with us. Fred and I thought it just as well to keep in the background and to put the baby forward. And now the doctor says you must stay another week with us, and you simply must, daddy dear, for Fred and I haven't had any visit at all with you. Come, baby, kiss your old granddaddy.'

"Well, now, if you'll believe me, that was the end of the setness of Philander Trott. I sewed there a good deal in the

fifteen years that he lived after that, and I never seen a better-tempered man, and he seemed to just live for the three children that came to Lucy May and Fred. I reckon that he told the truth when he said one day to me, says he, 'I tell you, Cyrilla, when a man gets right down to the borderland between this world and the next, and then creeps back into this world and has lots of time to lay and think things over, his vision changes a good deal and he sees things in a new light, and that light seems to come right from the throne of the Lord himself. Then when a little one comes into the play and sets him to thinking of another little one that is a part of his own flesh and blood, if he is anything at all of a man, he wants to live and act according to his new light, and that's what I mean to do. This new light has been a long time coming, but it's here now.'

"Now, I must talk less and work more or this shirt waist won't be done to-night, as I said it would be."

The New John Singleton

By Roy W. Yarnell

IT WAS a shame the way Singleton had beaten him, and Wolbreth was chewing the bitter cud of defeat. His feet were pounding the stone walk with determined, angry regularity, and the fact that he and Singleton looked so much alike but added gall to his wounded vanity. He had always declared half mockingly that he was more than Singleton's match, but fate seemed against him, and Singleton had won the ears of the directors of the big concern where he had failed. He was working for the people, he told himself, and Singleton had the backing of the "Bosses." Anyhow, he said that he had been playing heavy odds, and had lost nobly, but the excuse still left the sting of his defeat.

He wandered about aimlessly, looking for something to divert him and give him a chance to get over his anger, but fortune laughed at him and left him alone. His fist clenched suddenly, and he shook it under the nose of a large man who loomed up suddenly in front of him. The big man dodged and swore humorously under his breath as he turned and watched the immaculate figure in light flannels go swiftly down the street. Wolbreth finally consumed most of his anger in exercise and turned his steps toward the New York Central Station. He looked at his watch, and noted that it was but a few minutes until a train would be due. With aroused curiosity to know if perhaps there was a friend on it, he quickened his steps and elbowed his way sharply as the crowd grew thicker near the station.

The people watched interestedly as with head held erect and reaching somewhat above those about him he pushed toward the train. At last he found himself standing on the edge of the platform near an empty cab, and he became at once interested in watching those about him. He noticed the cabby first, and seemed to remember having seen him before. This was made a certainty when the man raised his hand in salutation. Wolbreth remembered that he was one that Singleton used very often.

"I'll be right here, Mr. Singleton," called the cabby, and looked straight at Wolbreth.

Wolbreth bobbed his head and looked about for Singleton, at which the cabby appeared amply satisfied, and sank back comfortably into his seat.

Wolbreth was somewhat mystified at this occurrence, as nowhere in the crowd could he see Mr. Singleton. Anyhow, the train came rumbling up just then, and his mind was at once diverted to the passengers. It was only the commonplace stream of people that hurried out of the cars, and Wolbreth was about to give up his anticipated enjoyment of seeing something of an adventure or a friend. But just as he was beginning to confine his luck to a very unsavory place his eye caught sight of a vision in a dark gray traveling suit, carrying a suit case in one hand and a cloak in the other, come hurrying from the car.

He became interested in a second and watched her fine profile as she moved down the platform. She kept looking over the throng of faces, as though searching for some one, and when the crowd opened before her and she saw Wolbreth at the end of a narrow aisle between the people, she gave a little involuntary gesture of relief and immediately came hurrying toward him.

Wolbreth gasped in astonishment as he saw her coming nearer, and he almost felt like turning and running away. He

tried to think where he had seen her before, but his thoughts were in open rebellion to his will. With a little sigh of relief he caught sight of a name and initial on her suit case.

He looked up just in time to see her hold out her hand to him and say, "Just see, Mr. John Singleton, what I have done for daddy."

Wolbreth at this mention of his opponent felt himself for sure in a quandry. Why had she come there to meet Singleton? Why had she mistaken him for the other? Then in a flash he understood. It was the similarity of their looks which had deceived her. But why had she come? There was something he was trying to think of. Suddenly he knew, and he almost repeated it aloud, "It is the girl that is going to elope with Singleton to save her father." He was a trifle embarrassed as he clasped her hand and welcomed her, but it was an embarrassment that was fast giving way to an overwhelming spirit of recklessness and revenge.

He took her suit case and cloak and hurried into Singleton's carriage. Then shouting his destination to the cabby, he sprang nimbly in and away the cab clattered up the avenue.

As they emerged from the press of the carriages about them, a man rushed up to the place which they had just left, and commenced shouting at the fast-retreating cab. But either his voice was not heard or it was Wolbreth's caution not to stop for anything that caused the cabby to continue on his way. But the man was not to be frustrated easily, and still halloing vigorously, he set out on a run after them. Wolbreth heard the noise and glanced behind. With a mingled expression of humor and anxiety he recognized Singleton, hatless and flushed,

sprinting after them as though his life depended on the outcome. Wolbreth opened the trap beside the cabby and said something which made that worthy apply the whip lavishly and soon leave the runner behind, who, before he could secure another cab, had lost sight of the fugitives.

The girl was looking at Wolbreth with questioning eyes, and he was quick to explain the incident.

"It's a fellow after me for exceeding the speed limit the other day," he said glibly, and watched with pleasure the amused smile that sprang to her rose red lips.

"So strange," she said complacently, eying him innocently with her great blue eyes.

Wolbreth could not decide whether she believed him or not. At any rate, he was too much occupied with plans to carry on his adventure to care.

"Grace," he said, "just think what a treasure I am going to get when I marry you."

"And you," she answered, "just think what a real bad man I am going to get for my husband."

He raised his hands in protest. "But I love you so. You are everything to me—my ambition, my life, my love." He was thinking how he could love this girl—this girl who was his ideal. "Yes," he said to himself, "I could—I do love her."

She looked up at him wonderingly. "You have changed, oh, so much, in a week, John, I really do believe that I do love you a little. But," she paused embarrassed, "I could not marry you now because—because there's papa. And I—I—if I like you, I can't marry you for money." Her face was crimson with shame as she spoke.

Wolbreth exulted. "But I will help

your father anyway, and I am going to marry you, too." He spoke with an air of finality that was most convincing.

"But you aren't like you was. You aren't the same as you used to be."

"Maybe—maybe I ain't the same John Singleton," he said. She glanced at him quickly, a look of fear lurking in her eyes, but his light laugh reassured her. "Perhaps," he continued, "you'll like me better than the old John."

"Perhaps," she said, and smiled at him until he fairly longed to make her his.

The cab was still rolling along the street aimlessly enough it seemed, but its occupants had not been conscious of the fact. The girl had been thinking of the strange change in her companion, and he—he had been wondering what the girl's last name was.

"I wrote to you last week, and you never answered my letter," he said, "and as an excuse I blamed the postmaster for not knowing you."

He watched her curiously as her cheeks reddened with excitement. "The postmaster not know the Cary's? Why, John Singleton!" Her glance of rebuke was enough for what she left unspoken, and he cringed just a trifle under it.

Miss Cary? She must be the niece of the Miss Cary in his set, of whom he had heard so much.

Wolbreth commenced searching through his pockets for something. At length he gave an irritated exclamation and turned toward Miss Cary.

"Just think," he said, "I have forgotten our license of marriage."

"Our license," she said. "I told you I would not marry you."

"But you said you liked me."

"Well, I don't care." She looked at him defiantly, as though expecting him to deny what she said.

Wolbreth made a sudden resolve. "May I make a confession?" he asked.

"Yes," she murmured in a tired voice, looking toward him.

Wolbreth assumed a brisk, businesslike manner.

"In the first place, my name is Hugh Wolbreth."

The girl gave a little cry of astonishment. "Not John Singleton? Oh, my, what shall I do?"

"Let me finish," he asked eagerly.

She looked again at his manly face, his clear, indomitable eyes fastened upon her, his well-groomed figure, and a sense of confidence came to her. She inclined her head in assent.

Wolbreth started again. "John Singleton and I are political enemies, and but yesterday we had a contest with the directors of a big concern. He won by one means or another, and I was defeated in having their support in the campaign. It was just at the time when the first disappointment of my defeat had left me that I saw you. And then when you called me Mr. Singleton I knew that you were the girl whom a friend had told me was to be Singleton's bride. I determined to defeat him then and there, because at first sight I knew I wanted you above everything else. So I put you in Singleton's carriage and eloped with you. You see," he continued, after a pause, "Singleton and I look a great deal alike, and so I—I deceived you."

The girl was looking at him with an amused smile on her lips. "It's just the kind of a Hugh Wolbreth Aunt Cary has always been writing me about. And," she answered the questioning look in his eyes, "I like him awfully well."

September

BY ALONZO RICE

*A flock of geese along the lane,
That stir the dust to sudden storm;
Along the west the sign of rain,
A gust of wind from meadows warm.*

*These usher in the autumn morn,
Accompanied by the sadder sounds
Of hunter with his alien horn,
Re-echoed by the baying hounds.*

*Sunflowers fire their leadened flame,
And partridges begin to drum;
The crickets in the grass proclaim
The autumn of the year has come!*

*The fields of buckwheat for the bees,
Like ocean waves around the hill,
Unruffled by the faintest breeze,
Stretch far away, serene and still.*

*Of ripened apples few are left,
And to deceive; the hollow-billed
Woodpecker, in a silent theft,
The pulpy core has deftly drilled.*

*These fall untouched in silent noon,
And hidden in the russet grass
Afford to swarming flies a boon,
Or thievish wasps that chance to pass.*

*From secret springs the river draws
Its wealth to feed the fainting source;
Refreshing all the seams and flaws
Like burning lips along its course.*

*The water rat is at his task,
And cuts his sheaf with eager teeth;
The grass reveals the cunning mask
The swimmer wears that lives beneath.*

*The woodwale sings, the lorn doves coo;
The hilly pathway, scarred with tracks,
Skirts russet meadows onward to
Where swallows swim with sunny backs.*

*And there where wains, full loaded, through
The gate have passed, the sweet kine stand;
The clinging wisps of hay they chew,
And wait the milkmaid's pail and hand.*

Making Scent From Flowers

BY DEBORAH SYTHE

AS LONG as Nature provides us with beautiful flowers to gladden our lives, so long will we wish to preserve their delightful fragrance. Everything in connection with this pastime is pleasant—the growing and gathering of the flowers, and finally the extraction of the sweet essence.

There are three ways of making scent: by distillation, where the perfume is extracted from the petals; by placing them in contact with pure fat, which absorbs and retains their fragrance, and by steeping the bloom in hot fat, which absorbs and retains their scent.

Distillation may be used to extract the scent of roses, orange blossoms, lavender, violets and other highly scented flowers. The old-fashioned still room is sometimes found in old country houses, but if such a relic of the past is not available, one can be improvised if a slender pocketbook is to be considered.

Our grandmothers used a still over hot wood upon an iron plate. An iron pan held flowers and water, and over this was placed what was called the "head," covered with wet cloths. The water was kept constantly boiling. The steam carried the fragrance with it into the "head," where the change of temperature condensed it, causing it to drop globules of scent on the surface of the water into the receiver.

A canister, a glass jar and a tin tube (or possibly a glass tube) can be utilized to make an improvised still. A wide-mouthed canister should be provided with a well-fitting cork. The tube is bent, and fastened securely in the cork. The other end is similarly bent, and fixed into the equally well-corked mouth of the glass jar. With these simple contrivances a perfectly satisfactory "still" will be the result.

A layer of clean pebbles must be put in the bottom of the canister, as a protection against burning, then the flower petals added, which must be covered with boiling water. Place the glass jar in a pan or vessel of cold water, having first wrapped a cloth or flannel around it, which dips into the water and keeps it cool. Let the canister of water boil until one third or one half of the water has been condensed and is in the receiver. The water and flowers in the canister are now useless and their fragrance is exhausted. The scented water must be distilled several times, throwing away about one third. The last water will then be a strong perfume.

The woman who lives in the country will find time to plant and tend her flowers, so as not only to enjoy their fragrance as they grow, but to look forward to them as a means of making money when they come to perfection.

Extracting scent by means of fat is another simple process which any one may avail themselves of. Take two soup plates, in which a layer of clarified fat has been carefully laid. One plate of fat must be covered thickly with petals of the flowers, and the second plate must be placed upon the first, to receive the fragrance from the petals in the lower plate. This will take two or three days. The flowers will then be dead, and must be thrown away. The fat must be worked a little with a knife, to expose a fresh surface. Fresh flowers must be laid on the under plate, and this process repeated several times. To extract the essence from the fat, it must be chopped fine, placed in a bottle, and covered with rectified spirit. At the end of the month the spirit will have become a perfume, and will be ready to be strained and bottled for use.

Such a simple occupation as this could be done at odd times, and would make a charming recreation from housework or needlework.

The third way to make scent is by infusing the flower petals in boiling fat. Fresh flowers are added every few hours, the spent flowers being strained away. The fat should be in a jar, which is again put in a pan, so that it shall not come in direct contact with the heat of the fire. After the fat has been strained several times, it is allowed to cool, and is then chopped fine, put in bottles, and covered with rectified spirit.

In these days of commercialism scents are apt to be adulterated, and if those who had quantities of fragrant flowers in their gardens would make them yield their pure scent they would be benefiting the public and at the same time earning some pin money for themselves.

Early Preparation for the Window Garden

BY LAURA JONES

EVERY one who grows flowers in the winter window garden likes to have at least one lily, either the old calla or the Bermuda Easter lily, or, as it is catalogued, the Harrisii lily. There is no grander lily for pot culture than this same Harrisii, and there is nothing better for forcing. The long, trumpet-shaped flowers are of the purest waxy whiteness, very fragrant, and one stalk bears a number of flowers. The bulbs are offered in different sizes, the largest sized producing the greatest number of flowers, and the ordinary size from three to six blooms to a stalk. This latter size sells at fifteen cents a bulb, while the largest size, that produces from ten to twelve blooms to a stalk, sells at from twenty-five to thirty cents.

These bulbs should be potted as soon as they can be procured in the fall, which is seldom earlier than the last of September. Pot in a rich sandy soil, encase each bulb in a cushion of fine sand, and set away in a cool, dark place, for the roots to form. About six weeks will be required for this. Then bring to the light, warmth and sunshine, and start into growth. Water slightly when set away, and then water very sparingly until well started into growth. These bulbs rot very easily if overwatered. Sunlight is necessary for the development of the buds, but the flowers will last much longer if kept out of sunlight and in a cool place.

The calla lily should be potted in September, set away in a cool, dark place, for the roots to form, for four or five weeks, then gradually brought to the light, warmth and sunshine.

Procure the largest-sized bulbs at the start, and these will bloom for years and increase each year. Give the warmest, sunniest spot possible, and do not allow them



to become chilled at night. After growth is well started, give liquid fertilizer twice a week, and every morning pour a cup of hot water on the roots, which will cause the buds to form. This is for the Egyptian calla, or the lily of the Nile. The spotted calla is a summer bulb, but many try to grow it in winter and fail.

The sweetest of all the small flowering bulbs for winter blooming is the freesia, which belongs to a new class of bulbs, but are becoming well known and very much appreciated wherever known. The freesia possesses great beauty and fragrance, and a pot of them in bloom will perfume a whole house. They are inexpensive, small, and half a dozen bulbs can be planted in a six-inch pot. Follow the directions given for the Bermuda lily, and when growth begins the hot-water treatment recommended for the calla will induce the buds to form. They continue to bloom for some time in pots, the stems branching and producing several clusters of bloom in succession. This can be had in the pure white, or white with yellow, purple or scarlet throat or in many colors. It pays to procure the largest-sized



QUEEN PEARS—Steam sweet pears until tender; remove a quarter from each, and core them; chop quarters, candied cherries and blanched almonds; add a little caramel sirup; stuff the cavities, and chill; serve with sweetened cream.



BABA EN SURPRISE—Add to one pound of raised bread dough three teaspoonfuls of sugar, one half cupful of milk, three eggs, seven tablespoonfuls of melted butter; work into smooth paste, roll into two parts; line a buttered baba basin with one half, fill with apricot marmalade; place the other piece on top; raise three fourths of an hour, then bake; unmold, and serve with sugar sirup flavored with lemon rind and rum. An exceptionally desirable winter dessert.



FRUIT SALAD—Put a layer of sponge fingers and macaroons onto a plate; add layers of pared and seeded oranges, split Malaga grapes and split cherries, then bananas cut lengthways, on each strip of which place blanched almonds; put a macaroon in center. Just before serving pour over cold sauce made of sugar, water, strawberry juice and sherry wine boiled to a thick sirup.



FROZEN TOMATO SALAD—Boil two quarts of canned tomatoes, twelve cloves, one small onion sliced, one bunch of celery, a bouquet of sweet herbs, one blade of mace, one large bay leaf and twelve peppercorns for thirty minutes; strain, season with paprika and salt, add one fourth of a box of gelatin dissolved in a little of the boiling liquid, then cool; pour into a melon mold, wind buttered cloth about edge, and bury in salt and ice for four hours. Invert onto a bed of lettuce arranged on a round or oblong platter, and serve with mayonnaise.

bulbs here, as in everything else. These usually sell for five cents apiece, or fifteen cents for four, or thirty-five cents a dozen. They are so small that one bulb will make little display, so several must be in a pot.

The Roman hyacinth is unlike the Dutch or show hyacinth which we usually see in pots, but these are less expensive, and are exceedingly showy and pretty, graceful and fragrant. They are prettier for cut

flowers than the Dutch sorts, and the whites are as pretty as they can be mixed with the smilax or the asparagus, and are excellent for forcing. These can be had at five cents a bulb, or fifty cents a dozen. Planted at intervals of two weeks apart they give a succession of bloom from Christmas until Easter.

An ideal window for the winter garden is in a kitchen facing the south, and here the plants receive constant heat and steaming, which induce new growth.

The Parents' Share

BY HILDA RICHMOND

TOO MANY parents consider their whole duty done when they send the boys and girls to school every day when they are able to be there. It is true the boys and girls must go to school, but if the parents think they have done their part when that is accomplished they are making a grievous mistake. Any one who has taught school will tell you that there is a vast difference between children from homes where the parents are doing their part, and the neglected boys and girls from homes where education is left entirely to the school and the teacher.

Last winter this was very forcibly illustrated when two ladies from the same neighborhood were buying toys and Christmas gifts for their children.

"What kind of a game do you want?" asked the clerk.

The careless lady answered, "Oh, anything, so it's a game," and took the first one shown her.

It happened to be a foolish little arrangement without anything to recommend it, but she was satisfied. The careful lady selected dissected maps and a game giving the capitals and other important facts about the states of the Union. Both spent the same amount of money, but one bought things with educational value, while the other simply wasted what she spent. If the educational games and the foolish ones can both be afforded, it is well to include a little nonsense now and then; but where one must spend carefully, why not get the best?

From the game counter they passed on to the book department of the store, and here the same conversation was repeated. The lady whose children "did not care for reading," and yet who bought a few books every year because other people did, selected at random a volume of Browning's poems and a few others about as fitting for children as the works of the great English poet. No wonder the children do not care for reading when books entirely beyond their comprehension are given them. The other lady selected ten, fifteen and twenty-five cent volumes for her children, and since then they have been read time and again. Of course many of the best books are copyrighted and cannot be bought for less than a dollar, but in the cheap list there are hundreds of good titles to select from.

And it isn't in books and games alone that parents are careless. There are parents all over the country who could not sit down and tell you what books their children study at school. They know instantly about the sheep or the cattle or the horses, but when it comes to knowing how the boys and girls are getting along at school they are hopelessly ignorant. If you have ever taught school, you know how certain scholars race home to tell of little triumphs at school, while others know that their parents do not care to be bothered with the daily happenings of the little school world. A great deal depends upon the scholar, but a great deal more depends upon the parents back of the boys and girls. The man who never has time to praise his sons and daughters for good work done in the schoolroom is a dismal failure, no matter how many acres of land and how much stock he may possess.

"I don't think anything about the school work of to-day," many people will tell you. "Things change so that I am all behind the times."

Now what business have you to be behind the times? The farmer is not using the methods of fifty years ago, nor does he sit hopelessly down to let the busy world go past him. During the long winter evenings there is ample time to look over the books your children study, and see what is going on in the educational world. Reading and spelling and arithmetic vary little, if any, and geography isn't as hard as it looks. One family has used for a long time a set of geography cards, and grandfather and grandmother vie with the younger members of the family in getting the greatest number of cards when the game is indulged in. It all depends upon the people whether they are behind the times or not.

It takes only a few minutes to inquire at the close of each day how the boys and girls got along at school. Show them that you expect them to do their best every day, and never be afraid of spoiling them by praising good grades and giving rewards for work well done. There are grown people to-day all over the land who still cherish little prizes given them years ago for "head marks" or fine work in arithmetic. The prizes never cost twenty-five cents apiece, but they are still valued above many more costly articles. And deep down in the memory still lingers the words spoken by proud parents when the prizes were carried home in triumph. Hundreds of boys and girls have made their way to the front in every department of life without encouragement at home or abroad, and hundreds more will follow their example, but that does not relieve parents of their share in the education of the children. Ever keep a high standard before them and see if they do not far outstrip the boys and girls who never hear a word of praise or encouragement at home.

The department on the next page entitled "How the Women of the Farm Can Make Money," is especially for the ladies, and we trust every ambitious housewife will be benefited by the exchange of ideas therein.

How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, O.

Dutch or Cottage Cheese

The demand for Dutch or cottage cheese has been more than I could supply. I bring the sour milk to the scalding point over a kettle of hot water, then drain off the whey, and salt, and form into balls, and it is ready for the market.

I also make grape jelly with wild grapes, and all it costs me is the time and the sugar. I have been unable to supply the demand for this jelly.

MRS. EASTMAN, Massachusetts.

Raspberry Culture

If women on the farm will try raspberry culture in a small way they will find it interesting and profitable. They always give good returns for time and labor spent, and the berries find a ready sale at the nearest village, where the housekeepers are always glad to have these large, clean-looking berries come to their doors. These plants like moist soil, and it is best to set them out in the spring. They are likely to last a long time after getting well established by a summer's growth. The best kinds may be selected from catalogues for about five cents a plant.

MRS. LOWELL, New Hampshire.

Canning Fruit

Along with my housework I manage to put up a good many kinds of fruit that net me a nice sum for my spending money. A great many people have trouble in getting canned fruit to keep, but I have had little trouble along this line. I first cook the fruit thoroughly, sweeten to taste, can while hot, and turn the cans upside down until cold. If no air escapes they will keep for two years.

MRS. L. L. WILLIAMS, Idaho.

Mixed Pickles

If you want to pick up some easily made pin money, make mixed pickles. Take one quart of raw cabbage, one quart of boiled beets, both chopped fine, two cupfuls of sugar, one tablespoonful of salt, one teaspoonful of red pepper, and one cupful of grated horseradish; cover with cold vinegar, and keep from the air.

NELLIE LOWRY, Missouri.

Unfermented Grape Juice

Making unfermented grape juice and selling it to physicians, churches, hotels or restaurants will be found profitable. Our family physician said that he could use all that I made among his patients, for it was better than that put up by firms who make a specialty of it. It readily sells for twenty-five cents a pint, or forty cents a quart. The pint bottles generally are preferred, as grape juice soon ferments if opened long before it is all used.

After washing the grapes, I place in a kettle, crush, and gradually bring to the boiling point, then remove from the fire, and drain through a cloth bag without pressure. Then I place the juice on the fire, bring to the boiling point, then add one teacupful of sugar to each pint of juice, and bring to the boiling point again. I do not allow it to boil, as it is not so good. Then I pour it into bottles, cork securely, and dip in melted paraffin to prevent the germs of mold from entering.

Unfermented juice is also made from apples, pears, cherries and berries of all kinds, and sells readily, as it is now being used more widely than ever.

MRS. N. E. McD., Tennessee.

Home-Made Cakes

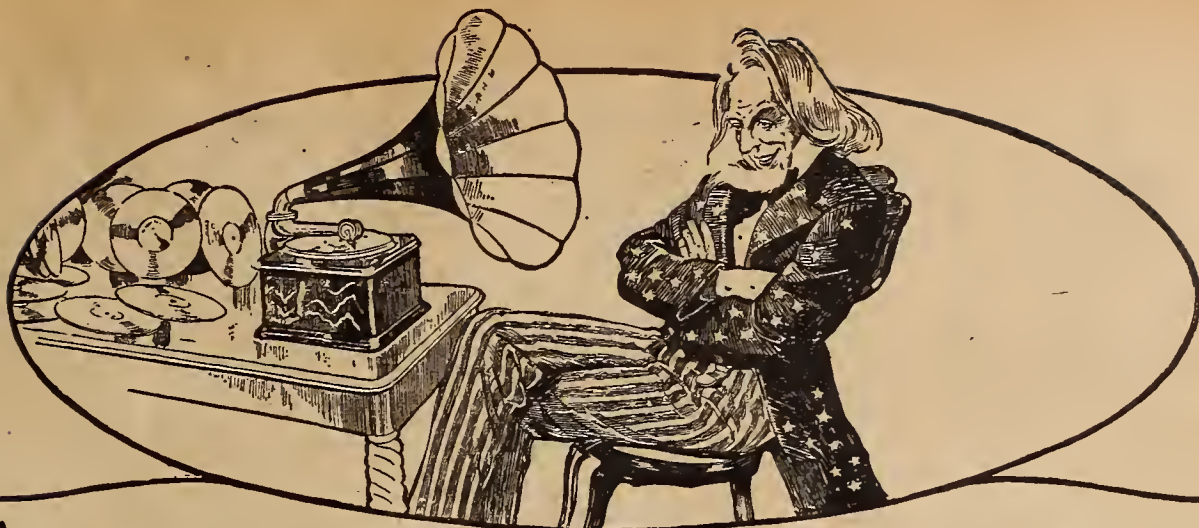
I pick up considerable money by the sale of cakes. I always find a ready sale for angel food, and about Thanksgiving time find fruit cakes are very salable; also at Christmas time I find popcorn on the string eagerly sought.

M. E. H., Indiana.

Tomato Catchup

I have been making considerable money each year by putting up tomato catchup for sale. I use different-sized bottles, and charge from ten to twenty-five cents, according to the size of the bottle.

MRS. JAMES WATSON, California.



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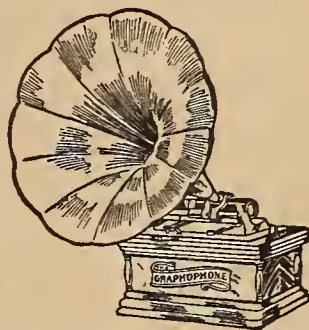
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A BARGAIN

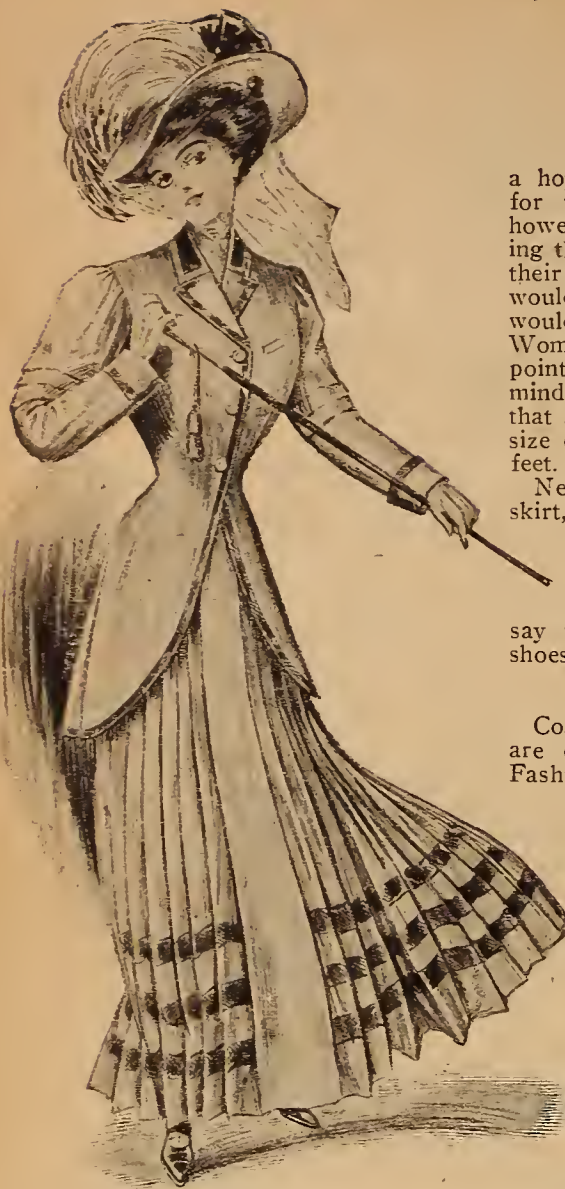
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Fall Fashions for Tailored Suits

The Short Skirt, Coat and Cape

By Grace Margaret Gould



No. 978—Cutaway Coat With Tucks in Sleeve

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one half yards of thirty-six-inch material, or two and three fourths yards of forty-four-inch material, with one fourth of a yard of velvet for collar.

No. 979—Plaited Skirt With Plain Front Gore. Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, ten yards of thirty-six-inch material, or six and one half yards of forty-four-inch material.

WOMEN are really going to walk this fall. Look at the new tailor-made suits and you know it. No drill sergeant could be more trig and smart than the fall tailor-made girl.

THE SHORT SKIRT

It is the new short skirt that gives the cachet to her costume. It must be remarked right here that this shortness, or brevity, of skirt is so peculiarly new that it actually requires definition. The short skirt of a year ago would be regarded hopelessly long to-day, while the short skirt of to-day would have seemed



No. 982—Short Cape

Pattern cut for small, medium and large (32, 36 and 40 inch bust measures). Quantity of material required for medium size, or 36 inch bust, two and three fourths yards of thirty-six-inch material, or two and one fourth yards of forty-four-inch material.

a hopeless misfit a year ago. So much for the caprices of Fashion. Women, however, must think twice before accepting this short skirt. They must remember their individuality and realize that what would be becomingly short for one woman would be outrageously short for another. Women should know their good and bad points and always dress with them in mind. It is hardly necessary to suggest that a short skirt will never diminish the size of large hips nor the length of long feet.

Nevertheless, the trotteur, or sidewalk skirt, as it is so often called, will be all the go this fall and winter. The fashionable trotteur skirts will vary in length from two to five inches from the ground. It is needless to say that more money will be spent in shoes than for many a season past.

THE COATS TO BE WORN

Coats are growing longer, and there are enough designs approved by Dame Fashion to suit every woman. The

thirty-six-inch-length cutaway, braid-trimmed and mannish in style, is one of the particularly smart coats of the season. It has the long coat sleeve with the new little variation of a few tucks just above the elbow.

Short cutaway coats are

also worn. An unusually smart model is a single-breasted tight-fitting coat with back seams and single dart seams extending to the shoulder. A novel touch is introduced in the lapels, which are inserted in the dart seams and then buttoned over. The sleeve is full length, tucked at the wrist and finished with a button-trimmed cuff. Then there are the fashionable semi-fitting coats which vary in length from twenty-four to thirty inches.

THE MILITARY STYLE

Every woman who has reason to be proud of her figure will be glad to know that the tight-fitting military coat is counted among the season's new and smartest fashions. The thirty-inch military coat illustrated on this page is a good model to copy. It shows all the seams in the back, fastens invisibly and is single breasted.

CAPE TO BE POPULAR

Many of the three-piece costumes this fall will be made with a short cape in place of a jacket. The little cape which does not reach quite to the waistline and is made with a fitted back is quite the smart thing to wear with a broadcloth skirt, especially if it is trimmed with velvet matching the bodice.

FALL AND WINTER FABRICS

That the fabric suit the costume is well illustrated in the new fall materials. For the mannish tailor-made suits hard-finished worsteds will be the materials used.

The new worsteds are medium in weight. Their wearing qualities are above reproach, and they come in the most fascinating array of stripes, small broken and unbroken checks, plaids and plain colors. In these materials stripes are the most in favor. Serge will be much used, as well as cheviot. Cloth plaids promise to be less a rumored fashion and more a fact this fall and winter than for many a past season. The dark blue serge tailor-made costume will be extremely fashionable for early fall wear, with just a touch of plaid or orange cloth introduced as a trimming.

BROADCLOTHS IN PLENTY

For the three-piece costumes much broadcloth will be used, and here we find the big fabric novelty of the season. This is fancy broadcloth. It comes in checks in soft shades, in stripes and in plaids. Plain, light-weight broadcloth in very light shades will also be worn, and many of these broadcloths in evening shades will be made in tailored style. The vogue for velvet will be more pronounced

than ever, and much silky paon velvet will be used. Marquissette and crêpe de chine will be frequently made up in combination with velvet for calling and theater costumes, the velvet being used as the border and showing some novel form. Dress

fashionable for two-piece skirt-and-coat suits. The old-fashioned crepon is showing cords and corduroy will be extremely itself in Paris and satin-surfaced silks, failles and bengalines will all be fashionable. At present it seems as if nothing could disturb the vogue for taffetas. Many warp-printed silks will be used as foundations for silk voile and veiling costumes.

The waists will be an elaborate combination of lace, exquisite trimmings and the fabric of the costume, and in design will frequently show the short Empire effect at the back. The coats will often introduce a Directoire effect showing a shortened waistline, big pocket flaps, flaring cuffs and rather full three-quarter sleeves. Broadcloths, dyed lace and velvets will be combined in these costumes. They will display much self trimming. Many cordings of the same fabrics as the gown will be used, as well as ruchings and platings when the material is of a filmy texture.

A high novelty for the three-piece costumes will be the imported silks which show suiting designs, some woven and some printed. These are especially attractive in Tussah silk, printed in a serge or striped suiting pattern. The costume idea is just as pronounced a fall and winter fashion for certain occasions as the mannish tailor-made suit is, for walking, shopping and general knockabout wear.



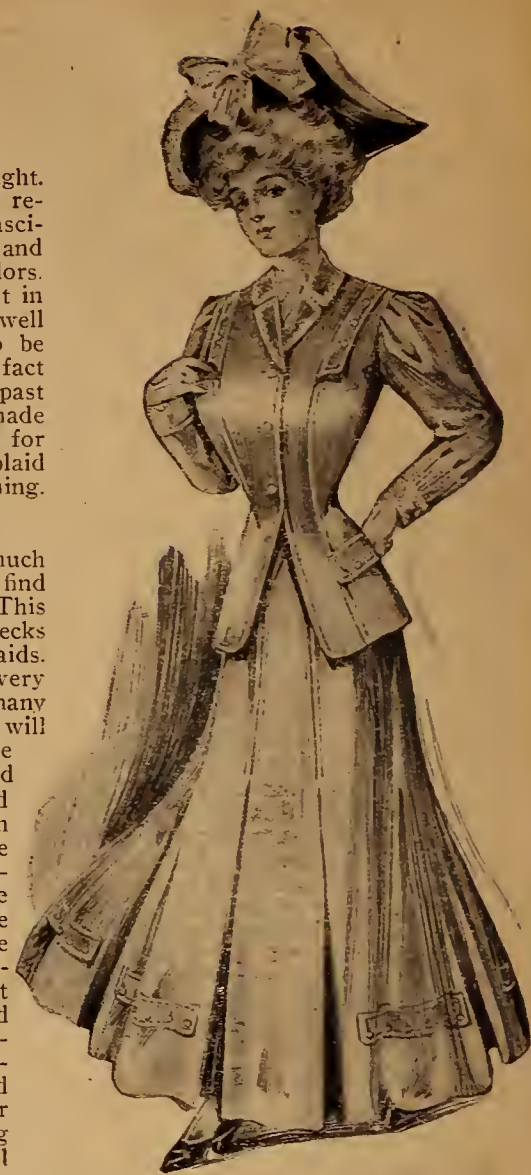
No. 978
No. 979



No. 980
No. 981



No. 983
No. 984



No. 980—Cutaway Coat With Shoulder Lapels

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of thirty-six-inch material, or two and one half yards of forty-four-inch material.

No. 981—Six-Gored Plaited Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, six and one fourth yards of thirty-six-inch material, or four and one half yards of forty-five-inch material.



No. 983—Tight-Fitting Military Coat

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two and one fourth yards of forty-four-inch material.

No. 984—Short Walking Skirt—Twelve Gores

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 38 inches. Quantity of material required for medium size, or 26 inch waist, nine and one half yards of thirty-six-inch material, or seven and one half yards of forty-four-inch material.

MADISON SQUARE PATTERNS

Our magnificently illustrated fall catalogue of Madison Square patterns will be sent free upon request. Our beautifully illustrated fall catalogue, larger, more beautiful and more up-to-date than ever, containing Miss Gould's latest Parisian designs and London fashions, will be ready about September 20th. Our fall catalogue is the result of Miss Gould's summer in Paris and the other fashion centers of Europe, and consequently it contains the very latest and newest styles to be found anywhere in America. When ordering patterns alone address Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Orders for patterns in connection with subscriptions and renewals should be sent to Farm and Fireside, Springfield, Ohio.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

How to Dress the Little School Girl

By Grace Margaret Gould

Send all pattern orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. In ordering, give number of pattern and bust and waist measures required. In ordering children's patterns, mention age. The price of each pattern is ten cents. Write for our new catalogue. Sent free on request.



No. 985—Reefer With Adjustable Shield

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, three and three eighths yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material, with one half yard of contrasting material for trimming



No. 987—Single-Breasted Box Coat

Pattern cut for 6, 8, 10 and 12 year sizes. Quantity of material required for medium size, or 8 years, four and one half yards of twenty-seven-inch material, or two and five eighths yards of forty-four-inch material, with three yards of braid for trimming

No. 988—One-Piece Plaited Dress

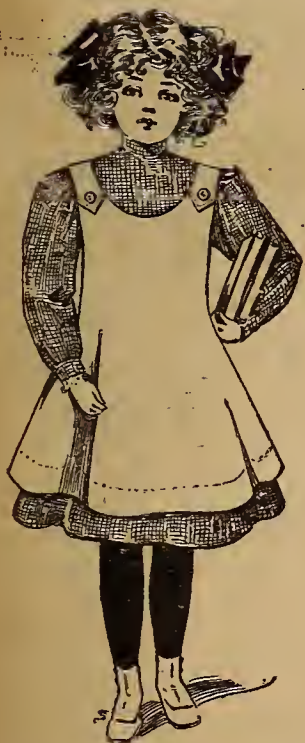
Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, seven yards of twenty-two-inch material, or four and three fourths yards of thirty-six-inch material, with one half yard of contrasting material for trimming

No. 990—Jumper Dress With Guimpe

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, four and three fourths yards of twenty-two-inch material, or three and one fourth yards of thirty-six-inch material, with two yards of all-over embroidery for guimpe

double box plait at the back and front, and the side gores gathered.

Jumper dresses especially in the bright plaids will go right on being both fashionable and practical for small girls. By varying the shirt waist or guimpe with which the jumper dress is worn, its whole look may be changed. Of course, every mother knows without being told that it's the wash waist that is the most sensible to use with these little dresses,



No. 986—One-Piece Princess Apron

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, three and one eighth yards of twenty-two-inch material, or two and one eighth yards of thirty-six-inch material



No. 989—Dress With Bretelle Skirt and Shirt Waist

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, three and one fourth yards of twenty-two-inch material, or two yards of thirty-six-inch material, with three yards of twenty-two-inch material, or two and one fourth yards of thirty-six-inch material, for shirt waist



No. 991—Sailor Suit

Pattern cut for 8, 10 and 12 year sizes. Quantity of material required for medium size, or 10 years, five yards of twenty-seven-inch material, or four yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming



Numbering from left to right, Nos. 990, 991, 989, 986, 987, 985, 988

themselves to her changing little body. Two school dresses are really sufficient, and let her wear them until they are worn right out.

Don't forget, however, that children soon tire of a dress, especially if they have to wear it day after day. The new shirt-waist suits for little girls make it possible for mothers to make but few school dresses and yet give the child the variety she so likes. Among the newest fashions are little shirt-waist dresses with the skirt made with bretelles. Such a skirt may be worn with a variety of shirt waists and look smart and new each time.

The design for a dress with a bretelle skirt pictured on this page shows the bretelles wide at the shoulders and narrowing toward the skirt-band, and they are slashed here and there to show the shirt waist beneath. The skirt is most attractive. It is in four pieces, with a

especially when they are made for school wear.

If you plan to make your little girl two new school dresses this fall, be sure to have one of them a one-piece dress. They always give the little wearer a trim, well-put-together look, and then just think of the time that is saved getting into them. Surely this is an item to consider in the hurry of getting off to school in the morning. A smart model to use for a one-piece dress is the plaited design shown on this page. It is made with three deep plaits on the shoulders, back and front, and it fastens down the front with buttons and button-holes through pointed tabs. The collar is made with a buttoned-over tab, and the belt fastens in the same way. A new touch is given this dress by the trimming, which may be of braid or of some contrasting material, which is applied around the arm-hole to give the large armhole effect.

PATTERNS without charge for our readers!

Commencing with this issue, we are inaugurating, for a limited time only, a new idea in our pattern department. We have finally found a method by which our readers may get all of their patterns absolutely without expense. Our new idea is just this: For every subscription, new or renewal, that you send to FARM AND FIRESIDE we will give you any one pattern absolutely free.

This means that when your subscription expires you can get a pattern free if you renew promptly. You can tell if your subscription has expired by looking at the lower left-hand corner of page 22; and even if your subscription has not expired, you can take advantage of this offer and we will put your subscription ahead a year from the time when it will expire. And it means also that you get a pattern free for every other subscription or renewal that you send us. In this way you can get all your patterns—dozens of them, if you want them—without paying a cent for them.

About our Patterns

We are glad to tell our readers that the pattern business of the FARM AND FIRESIDE has grown so much in the last year that we have had to move the pattern department into larger and more commodious quarters. This rapid growth has undoubtedly been due to the fact that Miss Grace Margaret Gould, the designer of all our Madison Square Patterns, has been in close touch with the most famous modistes and best known shops of Paris during all of the past year.

Miss Gould is in Paris now, and has been abroad nearly all summer, for the purpose of getting in touch with the very latest styles. The world's fashions in women's clothes are originated and created in the very establishments that Miss Gould visits daily. She is breathing the atmosphere of newest fashions these days, and is spending her time in more intimate relations with the world's greatest modistes and milliners than any other American woman!

Miss Gould will soon be back with photographs of the world's latest and best creations of the dressmakers' art, and with all the new Parisian ideas and styles for fall and winter that she has been absorbing during the last two months. Just think of having in your own farm paper pictures and fashions brought direct from Paris! No other farm paper in America does this for its readers. And then think of being able to get patterns of all these Paris creations absolutely free! But remember, we cannot give away these patterns always. This is

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Little Swamp Folks

BY MARGARET W. LEIGHTON

THE NEWT AND THE SALAMANDER

"GOOD-MORNING, Madam Newt," says Mrs. Salamander. "Why, what is the matter, my dear?" she adds, as Madam Newt neither lifts her head, which is buried in the mud, nor even waves her tail. Catching this drooping member between her soft jaws, Mrs. Salamander gives a brisk jerk, and pulling out her friend, beholds with dismay her tear-stained face.

"You let me alone!" sobs the woe-begone newt. "I've suffered enough at the hands of your tribe already. This morning that horrid spotted cousin of yours pounced down on my husband and swallowed him at one gulp, and we had been married only three days. It's so late in the season now I don't see how I'm ever going to get another husband, and he was such a good one, always giving me the plumpest worms and juiciest bugs."

"There, there, my dear Madam Newt, don't take on so," says her friend. "I'm always frightened half to death myself when I see that great cousin of mine approaching, and if I possibly can I glide under a stone until he has passed. Let's go and lay our eggs now."

"I suppose I might as well," says the newt, "for if I don't my children will be late in coming out. Are you going to roll each of yours in a bit of leaf, as usual, Mrs. Salamander?"

"Yes, indeed; I should be afraid to leave them uncovered, for some hungry fish might make a meal of them."

"As for me," said Mrs. Newt, "I never dream of taking so much trouble as that. I enclose each of my eggs in a globe of



THE LITTLE JERKER

crystal jelly, so that my little ones will have some delicious food close at hand the moment they come into the world."

THE CRAWFISH

"CRAWFISH BROTHERS, EXPERT CHIMNEY BUILDERS," is a sign that swings from an alder down in the swamp bottom. "Hi, there, Diogenes!" pipes a tree frog from a neighboring birch, "where's that fine chimney you built last week?" and he chuckles maliciously, as Diogenes observes, with a despondent sigh:

"Last night's flood made an end of that, as well as of my snug house at the bottom of it."

"Don't you wish you were a hyla, who had nothing to do but sit up in a tree and pipe to the sun and the moon, and snap up any tiny insects that fluttered by?"

"No, I don't," snapped the crawfish. "I'd be ashamed to live if I led such a useless life as you do. I'm off now to build a new burrow; watch and see it grow."

"Well, I'm in the cheering-up business," piped Hyla, "and I think it's quite as useful to sing merry little tunes to the swamp people as it is to be forever building stupid, old clay chimneys."

Toward sundown, just as Hyla was preparing to tune up for his evening serenade, a claw with a little ball of clay was thrust up from the dim regions below. "Ah, friend Hyla," called a rasping voice, "my burrow is finished, and a beauty it is, too! Come down and see how smooth it is. I'll treat you to a fish dinner if you will."

"Much obliged, I'm sure, Diogenes, but I prefer to sit up here and pipe, and sup on gnats and mosquitoes. I'll cheer you while you finish your work."

"Very well," replied the crawfish, and dropping to the bottom of his burrow, he soon reappeared with another clay ball, and placed it carefully beside the first. Every three or four minutes he brought up a ball, and his chimney rose as the night advanced. When the sun peeped over the hill next morning he shone on no nicer piece of work in all Swampland than the chimney of Diogenes Crawfish, Esquire, all firmly cemented, of little clay balls, seven inches high and round as a hoop.

A LITTLE JERKER

THOUGH one of the tiniest of the swamp people, I spend most of my time jerking about in the brook and searching for animals yet more tiny than myself. All at once I see a horrible red cavern lined with rows of sharp teeth open to receive me. I jerk aside, only to find myself seized in a dragon's dread claw. But just at the moment when my last hope is gone I feel the claw loosen, and a writhing gray monster seizes the dragon. I am free!

Jerk, jerk, jerk along I go down stream again. If my little coat of mail were not



a dull gray green, just about the shade of the weeds and the stones on the brook bottom, I should have been snapped up long ago.

I wish I were not quite such a favorite with the swamp people. They all love me—the trout, the turtle, the frog, the snail—and each says to himself, "I'll take shrimp stew for breakfast, I'll have a shrimp sauce for dinner or I'll take shrimp raw for tea."

Marjorie Lee

BY VERA TURNER

"OH, MAMA, I have something to tell you," cried Mildred, as she ran into the room where her mother was sewing.

"I am glad of that," smiled mama. "I always like to hear good news."

"Oh, but this does not happen to be good!" replied the little girl, as she sat down in a rocking chair and rocked vigorously backward and forward.

"Oh, I am sorry of that. Did you not have a nice drive with papa?" asked Mrs. Dillion.

"Oh, yes," answered Mildred, "or that is, I enjoyed the drive out there, but I never thought anything about it coming back, for I was thinking of the little girl I saw. Mama, you know papa went to see Mr. Lee, who is very sick, and he has a little girl who is a cripple and cannot walk at all. They have scarcely a thing in their house, and Nannie—that is the little girl's name—has not a single thing to play with. She says that she gets so lonesome sometimes that she cannot keep from crying. I wish that I might do something for her, mama. But I have thought and thought and cannot think of a single thing which I might give her that would make her any happier."

"You might give her one of your dolls," suggested her mother.

"Oh, but I cannot spare any of them," replied the little girl, a slight frown gathering on her forehead.

"You have five, haven't you?" asked Mrs. Dillion.

"Yes, but they all have their place, and I don't see how I could give any of them away," answered Mildred slowly.

"I dislike to think that my little daughter would for a moment allow Miss Selfish to enter her heart," said her mother in a gentle, reproving tone.

Mildred's face flushed scarlet, and soon afterward she rose and left the room.

"I don't see how I can give either of you away," said Mildred to her dolls a little later. "Yet mama thinks I must, I know she does, and I don't want to be selfish at all. Now, Marjorie Lee," and she lifted a beautiful wax doll from a small rocking chair, "how would you like to live in a new home? You are the very prettiest doll I have, and have more beautiful clothes than the others. No, I can't let you go."

And she placed the doll back in the chair and took up another, one dressed in a servant's costume, including the little white cap, which was worn in order to hide the bald head, for Mildred had combed most of the hair out. Her face had been washed so often that it was perfectly colorless, and she was not a very beautiful doll to look at, especially when compared with the other four Mildred had.

"Why not let Annie go? We can do without a maid, can't we, Marjorie Lee?" she said, nodding her head meaningfully to the doll addressed. "I will get her ready right now and take her to Nannie this very afternoon, as papa goes back to see Mr. Lee."

For the next few minutes Mildred was very busy packing Annie's little trunk. She carefully folded up a white apron, and was about to place it in with the other dresses when she suddenly paused.

"What if Nannie were to ever know that I gave her the ugliest doll that I have," she said, speaking aloud to herself. She was very quiet for a few minutes; then she suddenly jumped up and exclaimed, "I'll do it. Come, Marjorie Lee,



THE NEWT AND THE SALAMANDER

I am going to let Nannie have you. I will have four dolls to play with, and she will have only you, so you must be very, very good, and do all you can to make her happy."

"And mama," Mildred exclaimed to her mother after giving the doll to the little cripple, "you should have seen how surprised Nannie was when I told her she might have Marjorie Lee to keep as her own. She actually cried, she was so glad, and said that she had never seen such a beautiful doll in all of her life, and that she would never get lonesome any more. I am so glad that I gave her Marjorie Lee instead of Annie."

The Nest in the Tree

THE sun was just peeping over the hills, the leaves on the trees stirred gently, and a sleepy voice among the branches said, "Mother, I am so hungry. When may we have something to eat?"

"Yes, mother dear," came a chorus of voices, "we are so hungry. May we have some breakfast?"

"Yes, my dears," replied the little brown mother bird, "you shall have something just as soon as I can go out and get it."

Poor little mother! She had five hungry mouths to fill. But they were a happy family. Soon each of them would be able to fly and get his own breakfast.

"Oh, mother," cried out the little ones, "you said you were going to teach Bright Eyes to fly to-day."

"Yes," said the mother, "I am. When I return, and we have eaten, I will teach your sister, Bright Eyes, to fly."

"Good-by, mother dear!" cried the birdies, as she kissed each of them before leaving in search of the breakfast.



THE CRAWFISH

"I'll return soon, children," and away she flew as happy as could be.

A little boy stood by the roadside. He had a little air-gun in his hand.

"Oh, I see something at which I may shoot!" he cried, and pulled the trigger.

There was a soft flutter, and down fell the poor mother bird with a shot through her brave little heart.

"Oh, oh, oh!" cried the birdies. "Why doesn't mother come? We are so hungry."

They waited until the sun was very high. "Oh!" they cried. "What is keeping our dear mother so long?"

The sun went down in the west, and still she had not returned. Poor little birdies! How they cried! At last Bright Eyes, who was the strongest, said she would try to fly and find the mother. But poor little Bright Eyes fell over the edge of the nest and lay very still upon the ground. She never opened her bright little eyes again. Then one by one the others grew too weak to cry any more and they tucked their little heads underneath their wings and lay quiet in the nest. They never woke again.

The little boy who made all of this sorrow was not really cruel; he was very thoughtless. If you see a little boy who is thoughtless, dear children, just tell him about the poor little mother bird, and her babies and beg him to be kind.—The Child's Gem.

A Dog and a Pig

WHAT is claimed to be a true tale of a dog and a pig is told by the "Sunday Magazine." The dog and the pig were both passengers on the same ship, and became warm friends. They used to eat their cold potatoes off the same plate, and but for one thing would never have had any trouble. This was the fact that the dog had a kennel and the pig had none. Somehow the pig got it into his head that the kennel belonged to which-ever could get into it first; so every night there was a race.

One rainy afternoon the pig found it rather unpleasant slipping about the deck, and made up its mind to retire early. But when it reached the kennel it found the dog inside.

Suddenly an idea flashed upon it, and trudging on to where their dinner plate was lying, it carried it to a part of the deck where the dog could see it, and turning its back to the kennel, began rattling the plate and munching as though at a feast. This was too much for Toby. A good dinner, and he not there! Piggy kept on until Toby had come around in front of him and pushed his nose into the empty plate. Then, like a shot, it turned and ran and was safe in the kennel before the dog knew whether there was any dinner on the plate or not.



HE'S HELPING SOME

Photo by Will G. Hallwig

His Compliment

ONE day lately a certain Irishman lost his umbrella during a tour of several shops in quest of an article for his wife. Concluding that the umbrella must have been left in one of the three shops in question, he doubled on his trail and revisited them in turn.

"The umbrella has not been found here," he was told at the first establishment.

The same announcement was made at the second shop; whereupon the official, with a hopeless air, made his way to the third.

There, to his delight, the umbrella was awaiting him. As the floor walker handed it over, the overjoyed Celt exclaimed, "Well, I must say you are more honest here than at those other shops!"

Comforting

A lady who had recently moved to the suburbs was very fond of her first brood of chickens. Going out one afternoon, she left the household in charge of her eight-year-old boy. Before her return a thunder storm came up. The youngster forgot the chicks during the storm, and was dismayed, after it passed, to find that half of them had been drowned. Though fearing the wrath to come, he thought best to make a clean breast of



THE APPLE OF HIS EYE

the calamity, rather than leave it to be discovered.

"Mama," he said contritely, when his mother had returned, "Mama, six of the chickens are dead."

"Dead!" cried his mother. "Six! How did they die?"

The boy saw his chance.

"I think—I think they died happy," he said.—Harper's Weekly.

"My darling George, I have received your nice letter, and I hope you will send me a check by return. You wouldn't believe it, dearie, but for the life of me I can't think of anything else to write about!"—Sporting Times.

Out of Work

One of the senators from Georgia tells of a ducky in that state who sought work at the hands of a white man. The latter inquired whether the negro had a boat. Upon being answered in the affirmative, he said, "You see that driftwood floating down the stream?"

"Yassah."

"Then," continued the other, "row out into the river and catch it. I'll give you half of what you bring in."

The ducky immediately proceeded to do as instructed and for a while worked hard. Then of a sudden he ceased to labor and pulled for the shore.

"What's the trouble?" asked the employer.

"Look hyar, boss," said the ducky indignantly, "dat wood am jest as much mine as yours. I ain't gwine to gibe you any. So I's outer work again!"—Lippincott's.

A kind old gentleman, seeing a small boy who was carrying a lot of newspapers under his arm, said, "Don't all those papers make you tired, my boy?"

"Naw; I don't read 'em," replied the lad.—Canadian Courier.

Why She Sang the Hymns

A well-known bishop relates that while on a recent visit to the South he was in a small country town, where, owing to the scarcity of good servants, most of the ladies preferred to do their own work.

He was awakened quite early by the tones of a soprano voice singing "Nearer, My God, to Thee." As the bishop lay in bed he meditated upon the piety which his hostess must possess which enabled her to go about her task early in the morning singing such a noble hymn.

At breakfast he spoke to her about it, and told her how pleased he was.

"Oh, law," she replied, "that's the hymn I boil the eggs by; three verses for soft and five for hard."—The St. Joseph News Press.

PARSON (on a bicycling trip)—"Where is the other man who used to be here as keeper?"

PARK GATEKEEPER—"He's dead, sir."

PARSON (with feeling)—"Dead! Poor fellow! Joined the great majority, eh?"

PARK GATEKEEPER—"Oh, I wouldn't like to say that, sir. He was a good enough man, as far as I know."—Punch.



Real Black

"I want to get a ribbon for my type-writing machine," said the author.

"All right, sir," replied the polite clerk.

"What color—blue, purple or black record?"

"Well, er—I guess you better give me black record. I am going to write up the past of a Pittsburg millionaire."—Chicago News.

The Same Act

An old negro was recently brought before a justice in Mobile. It seemed that Uncle Mose had fallen foul of a bulldog while in the act of entering the hen house of the dog's owner.

"Look here, Uncle Mose," the justice said informally, "didn't I give you ten days last month for this same thing? Same hen house you were trying to get into? What have you got to say for yourself?"

Uncle Mose scratched his head. "Mars Willyum, you sent me to de chain gang fo' tryin' to steal some chickens, didn't you?"

"Yes, that was de charge."

"An' don't de law say you can't be charged twice wid de same 'fence'?"

"That no man shall be twice placed in jeopardy for the identical act, yes."

"Den, sah, you des hab to let me go, sah. Ah war aifah de same chickens, sah."—Nashville Banner.

The Groom's Toast

At a wedding feast recently the bridegroom was called upon, as usual, to respond to the given toast, in spite of the fact that he had previously pleaded to be excused. Blushing to the roots of his hair, he rose to his feet. He intended to imply that he was unprepared for speech making, but he unfortunately placed his hand upon his bride's shoulder, and looked down at her as he stammered out his opening and concluding words: "This—er—thing has been forced upon me."—Argonaut.

Cheerfully Given

Bobby's father had given him a dime and a quarter of a dollar, telling him he might put one or the other on the contribution plate.

"Which did you give, Bobby?" his father asked when the boy came home from church.

"Well, father, I thought at first I ought to put in the quarter," said Bobby, "but then just in time I remembered 'The Lord loveth a cheerful giver,' and I knew I could give the dime a great deal more cheerfully, so I put that in."—Philadelphia Ledger.

A Stinging Retort

A gentleman purchased at the post office a large quantity of stamped envelopes, newspaper wrappers and other postal requisites.

Finding them somewhat difficult to carry, he asked one of the counter clerks if he could supply him with a small quantity of string.

"We are not permitted by the department to supply string," was the reply.

"Then give me a bit of red tape," was the sarcastic retort.

The string was supplied.—Sketch.

THE COURT—"Have you anything to say before I pronounce sentence upon you?"

THE PRISONER—"Yes, your honor. I'd like to apologize for my lawyer. He defended me as well as anybody could be expected to do for a two-dollar fee."—Chicago Tribune.

CHURCH—"See that man going along with his head in the air, sniffing with his nose?"

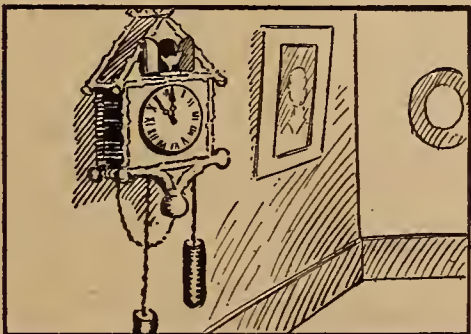
GOTHAM—"Yes; I know him."

CHURCH—"I suppose he believes in taking in the good, pure ozone?"

GOTHAM—"No; he's hunting for an automobile garage, I believe."—Yonkers Statesman.



Representing Birds and Fowls



Answer to Puzzle in the August 25th Issue: John Eliot—"Apostle of the Indians." James Buchanan—"Bachelor President." Henry Clay—"Harry of the West." Thomas Benton—"Old Bullion." William Henry Harrison—"Tippecanoe." Benjamin Harrison—"Little Ben."

His Remarkable Timepiece

A man halted in front of a jeweler's store where there is a clock regulated hourly from the Washington observatory, drew his watch half way out of his fob pocket, glanced from it to the store clock, replaced it, and started on with a stride almost cheery.

"Going all right?" asked his companion.

"On the second," said the man.

"You seem to take pride in your time-piece."

"So I do."

"Costly watch?"

"Present to me."

"Good timer?"

"Well, I couldn't set her more accurately unless I used a microscope."

"How long since it has been set?"

"It's going on a year now."

"You don't say! And hasn't been regulated or reset?"

"Nope."

"I suppose you like to compare it with a clock you know is showing true time?"

"Yes, I haven't got over that habit."

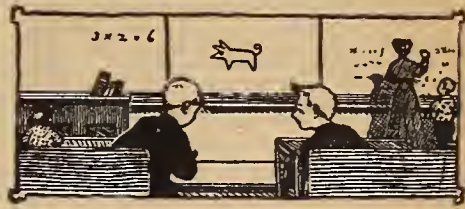
"Suppose it needed regulating?"

"I don't know any one who would undertake the job."

"Such intricate works?"

"Well, to have it done by a man who would undertake it would cost almost as much as the original price."

"Well, well! But fortunately, you don't



PROOF POSITIVE

"What's the matter with your pap? I heard he was sick."

"He is. He's got the exclamatory rheumatism."

"You mean inflammatory. Exclamatory means to cry out."

"That's what he's got then, 'cause he don't do nothin' but holler."

have to have anything done to it often—I think you said it was going on a year since you had any work done on it?"

"Yes."

"Just for curiosity, about how long has it been since it was set?"

The owner of the watch took another sly glance at it and said:

"It is now just 11:32 A.M. At 10:48 I set it by the clock we just passed. My wife gave ninety-eight cents for it day before yesterday at a department store, yesterday I dropped it off from an elevated railway station. I thought the fall might put it out of commission, but it seems to be doing all right."—New York Sun.

MISS LACY—"I don't feel comfortable in this bodice at all."

MISS ASCUM—"Why not?"

MISS LACY—"It makes me feel uncomfortable because it feels too comfortable to be a good fit."

How Willard Fed the Hogs

Upon the farm of Wilkinson,
Among the Jersey bogs,
The farmer said to Willard: "Son,
Run out and feed the hogs."

Now, Willard was a likely lad,
With brain and spirit fine,
And higher, nobler dreams he had
Than those ancestral swine.

He pondered: "That there money quick
Is mighty powerful talk,
And Wall Street must be mighty slick—
I'm going to N' Yawk!"

So Willard dropped the humble pail
He carried on his arm,
And briskly following the trail,
He left that Jersey farm.

A hundred dollars Willard had
In Wall Street to invest,
"I wonder," thought the simple lad,
"What kind o' stock's the best?"

So Willard on the curb delayed,
Until a voice he heard
Say: "Easy millions to be made
In Mountain Air preferred."

That Willard put his hundred in
The broker did suggest.
So Willard parted with the "tin,"
Quite eager to invest.

A week passed by—Oh, bitter cup
Of deep financial rue!
The broker said: "Your stock's gone
up—
Your cash?—that's gone up, too."

'Twas sunset on the Jersey farm,
When sick, and sore, and slack,
His tattered coat upon his arm,
The prodigal came back.

"Where have you been?" his father
cried,
Across the fertile bogs.

"Don't lick me, pa," the boy replied,
"I've been an' fed the hogs!"

—Wallace Irwin in Household Guest.

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The Grange

BY MRS. MARY E. LEE

CO-OPERATION IN EDUCATION

A NUMBER of organizations interested in education met unofficially at Middle Bass Club House, Middle Bass Island, August 1st and 2d, to promote a movement for giving each boy and girl, no matter where situated, whether rich or poor, equal opportunity with every other child to secure that education which his natural abilities lead him to choose, to so correlate mental and physical training that on leaving school the child may not be handicapped in engaging in profitable employments.

It was thought necessary to provide mechanical, agricultural and domestic science training as well as mental, so that each child may secure education in that vocation which his natural preferences will lead him to follow. Further, that the child should be under supervision of a competent school officer throughout the school year, whose duty it shall be to see that each child, according to his ability, secure this training without let or hindrance, and that the employment of children during out of school hours, vacation time and the habit-forming period from fourteen to eighteen years be combined with the school system in a way to make employment as well as study a part of the educational system.

The universal discontent with the schools all over the country indicates radical defects. We spent in 1905, \$288,582,279 for a kind of education that all interests declare inadequate and which sends incompetents into the world to battle for a living. It is natural for the child to inquire and it is the duty of the school to answer those inquiries and direct activities along natural lines. Our irrational school system makes the getting of the child to school one of the hardest problems of school administration, whereas if the "whole boy" was sent to school the buildings would be crowded with eager aspirants.

The world makes way for the man who knows. The boy sees this and rebels against spending his time in such a way that he is handicapped when he becomes a wage earner. If he knew that each day spent in the schoolroom would help him to climb after he left, and that every day out of the schoolroom put him at a disadvantage with his fellow, the schools, not the streets, would be crowded. It is criminal to pass laws that force a child to spend the habit-forming and preparatory years of life in that which bears no relation to his future. It is the inefficiency of the schools, not the indifference of the youth, that gives the truant officers trouble. The child will go where it is his interest to go. If he sees a boy without education, save what he has picked up in a shop or on a farm, earning more than a boy with a high-school education, he will be apt to have little respect for the school, which not only takes his time, but places him at a disadvantage with the other boy. The boy worth while wants power, and power comes only with efficiency. If the schools trained him in efficiency he would be in the schools.

Because the common schools are not furnishing the kind of education that will fit the youth to become a worker, many of the well to do are establishing private schools and employing tutors in the homes. In Boston more than one third of the entire school population, thirty thousand in number, are in private schools. In other cities the proportion in private schools is correspondingly large, while in the rural districts there are many parents who despair of the state giving the child a rational training, and are likewise employing private teachers. The state is thus defeating its own aims by depriving the poor child of the opportunity of acquiring skill, and starts him on the road to dependency instead of independence. "One of the greatest, if not the greatest, problems confronting the American people to-day is the education of the boy," said Jas. W. Van Cleave, President of the National Manufacturers' Association.

After full consideration it was the unanimous opinion of those participating in the conference that a National Conference Committee be organized, comprising those national organizations which have the education of the child, not its labor, at heart. A preliminary committee on organization was appointed, consisting of Allen R. Foote, Columbus, Ohio, Commissioner Ohio State Board of Commerce and President National Tax Association; C. D. Firestone, Columbus, Ohio, member Carriage Builders' National Association; W. H. Elson, Superintendent of Schools, Cleveland, Ohio, Vice President National Educational Association and official delegate to this conference from that organ-

ization; E. B. Norris, Sodus, New York, Chairman Executive Committee National Grange, and a member to be appointed by the National Manufacturers' Association.

In addition to the above there were present W. D. McKinney, Columbus, Ohio, Commissioner Columbus Industrial Alliance; Mary C. Snyder, Secretary National Tax Association, Columbus, Ohio; Geo. E. Pomeroy, President Ohio State Board of Commerce, Toledo, Ohio (host to the conference); Geo. P. Hampton, who conducted the denatured-alcohol campaign, and member of the Grange; Mrs. Sarah E. Hyre, member of the Board of Education of the National Educational Association; Ex-Governor Bell of Vermont, and F. A. Derthick of Ohio, both members of the Executive Committee National Grange, and Mary E. Lee, Grange correspondent.

MILK UNIONS IN NEW YORK

That New York State Grange is getting down to basic principles in co-operation is evidenced by the creation within the Grange of Milk Unions. Throughout the great dairy sections of that state the dairymen have been practically at the mercy of the milk dealers of the city.

They have been working on plans of co-operation in shipping and selling milk, but the Grange and the Sanitary Milk Supply Company of New York City have formed a co-operative arrangement whereby Patrons produce a standard grade of milk, under the most healthful and cleanly surroundings, with stable inspectors for each township. The milk is shipped to the company in the city at a considerable advance in price over the old method. The Patrons were willing to install modern improvements if they were to get adequate compensation.

E. B. Norris says that the Grange is working overtime in initiating members who desire to be in touch with this enterprise. That's the thing. If your Grange is doing anything you don't have to solicit membership. There must be a getting together of the producer of farm products and the consumer, and it will not be by opposing everything and everybody. Some people believe the only way they can gain what they want from the Grange is by stirring up antagonisms and class prejudices. The Grange will not flourish in any community under this régime. If you want co-operative trade arrangements, they are not gotten by visiting the State Grange with a doleful story. And if satisfactory arrangements are secured, Patrons will not need to be entreated to avail themselves of the opportunities thus afforded.

THE OBSERVATORY

People talk a great deal about their rights and privileges under a democracy, but little about their duties and obligations.

The best remedy for curing indifference to the Grange in any community is for it to do something worth while. I never knew a place where the Grange was an active factor in local matters, in bettering conditions, but that it was considered the most attractive and desirable organization in the town. When you hear of a Grange moaning because people will not go into it, you may rest assured that it is wishing instead of doing. You can't keep people away from any organization that does things to attract commendation. Go to work. Stop growling. It's a pretty good world if you will go to work.

Here is Brother T. C. Atkeson's advice to West Virginia:

Go ahead and make your play;
Never mind the knockers.
They're in every worker's way;
Never mind the knockers.
Every one who seeks to shine,
If successful they malign;
'Tis of fame a certain sign—
Never mind the knockers.

They strike only those who climb;
Never mind the knockers.
'Tis success they deem a crime;
Never mind the knockers.
If they hammer at your name,
Then be sure you're in the game;
'Tis a species of acclaim—
Never mind the knockers.

Good for other states as well as for West Virginia, and other organizations as well as the Grange.

— thousands of farmers are waking up to the fact that there's money in saving waste.

Don't throw away any under-sized or overripe fruits or vegetables, windfalls or culls. CAN THEM!

Put in a little canning plant of your own.

Put up fruits and vegetables for your own market, for the city market, for your neighbors and for stores in adjacent towns.

You can sell at high prices—work is easy—machine simple—costs little—put up in no time—a child can run it.

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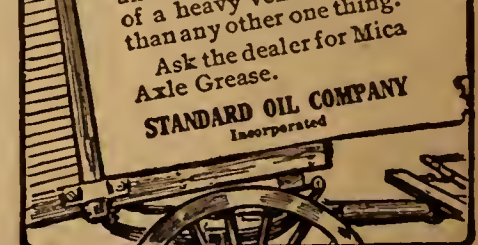
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ECONOMICAL USE OF STRAW ON THE FARM

IF WE derive the greatest benefit from our straw, it is essential that we secure it in the best possible condition and use the utmost care to keep it dry and as bright as we do our hay. If the grain is stacked, we should take special pains to secure the straw as well as the grain from injury by wet weather. If barn room is plentiful and the grain is stored there, it is best to have the machine placed so that the straw can be blown from one position to the mow, so as to keep it under cover.

If we are to make our farms pay a fair profit we must do all that is possible to keep up the fertility of our lands, and to do this in the most economical manner we must keep more live stock. How is the best way to do it? We must grow more grain if we keep more live stock—some will grow nothing but grain—thus diminishing the amount of hay. The best remedy is to make the straw take the place of hay. If well taken care of, it will make a very good feed to take the place of hay, especially when cut and fed with ground grain. In this way most all kinds of stock will do well on it, or it may be fed along with hay and give more satisfactory results.

In the Far West, where farmers grow hundreds of acres of grain and do not find it profitable to keep a large amount of stock, it will prove profitable to haul it into the feed yards and allow the stock to trample it under. In giving it to them in this manner, considerable manure will be made to haul on the land that would otherwise go to waste. Any one who has not fed it in this way will be surprised at how much the stock will consume. Sheep like it very well, and when spread on the ground or placed in feed racks they will sort it all over and pick out every head with grain in it, and they like all the other parts. If fed with bright straw and fodder corn they will winter in first-class condition.

I would not encourage any one to feed straw alone, but it has valuable feeding qualities when fed in a judicious manner, and will go a long way toward saving the hay and fodders for winter feeding. Stock will eat it with a relish, because it is very palatable, or else because it is a change of food. I think all of us have seen our cattle come in from the pasture and eat straw or chew the butts of corn stalks.

When it is desirable to keep a large number of animals on a small amount of feed it will pay to use a cutting machine. It will not only save a large amount of straw, but will carry the animals along in better condition. I know some who have fed it the first time through necessity, but who have afterward planned to use it as a feed every year as a matter of economy and profit. Here in the East we value our straw at about one half the price of a ton of mixed hay. When mixed with corn fodder and cut for cattle it makes a more economical feed than when each is fed alone. It will also keep in a better condition for feeding than the corn when fed alone, and they can be stored in a much smaller space than when put in the barn and not cut. It is much less work to cut and feed, even if done by hand, than most people imagine.

Bran, shorts, cornmeal and ground oats, either mixed or separate, may be fed with cut straw in quantities varying to the purpose for which they are needed. For dairy cows that are fed ensilage, straw will go farther toward taking the place of hay than with any other kind of farm animals to which we have ever fed it, as they seem to relish it more when the succulent corn fodder forms a large portion of their rations. For dairy cows that are not being fed ensilage, the best results will come by feeding it with bran, shorts and a little cornmeal, but for horses, fattening cattle and other live stock, better results come from feeding it with that kind of feed which has the greatest amount of nutriment for the price.

Most animals prefer to have a variety, and as a rule it will not be advisable to feed straw alone, but alternate it with cut hay, corn stalks and other fodders. Some farmers use a few acres of corn, cut it with a grain binder, and set it in shocks until cured. Then it is hauled to the barn, cut with the straw, and run into the mows and kept for winter feed.

A day's feed may then be taken from the mow and spread in a large box adapted to the purpose, sprinkled with grain, then sprinkled with water and allowed to soften, and the result is that the flavor of the grain and corn fodder is imparted to the straw, and the animals will eat every pound with a relish. This feed can be made to give the best results, and will also be very economical.

By preparing the food in this manner it will readily be seen that a larger number can be kept and a larger amount of manure can be made, thus assisting in building up the fertility of our farms.

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YOU CAN RETURN THE GUN TO US AT OUR EXPENSE AND WE WILL AT ONCE RETURN YOUR MONEY, INCLUDING ANY EXPRESS CHARGES YOU MAY HAVE PAID.

THIS GUN IS MADE IN OUR OWN FACTORY at Meriden, Conn., it is the most wonderful single barrel gun ever made, and is worth ten times as much as any of the cheap single barrel guns on the market; safer, quicker acting, stronger, far better shooting, and by far the handsomest single gun ever produced, far cheaper at our SPECIAL \$7.95 PRICE than any of the cheap single barrel guns on the market even at \$1.00.

IF YOU WANT OUR \$2.59 OR \$2.89 SINGLE BARREL BREECH LOADER, as illustrated and described above, enclose our price, either \$2.59 or \$2.89 (we especially recommend if you order our New England gun that you enclose \$2.89 and get the gun with the positive automatic ejector); we will then send the gun to you with the understanding and agreement that you can give it thirty days' free trial, during which time you can put it to every possible test, and if you are not perfectly satisfied with your purchase, if you are not satisfied it is the equal of any gun you can buy elsewhere at \$5.00 to \$7.00, you can return it to us at our expense, AND WE WILL IMMEDIATELY RETURN YOUR MONEY, TOGETHER WITH ANY EXPRESS CHARGES YOU MAY HAVE PAID.

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at any price! They will not be sold. The only way you can get one is to accept one of our offers. It is greatly to your benefit to take advantage of these offers now, because we shall positively withdraw this opportunity to get a beautiful polychrome reproduction of this masterpiece, and FARM AND FIRESIDE, at these bargain prices.

What You Get

Farm and Fireside

If you accept one of these great limited offers you will get FARM AND FIRESIDE—the greatest farm paper in the world—twenty-four times a year.

FARM AND FIRESIDE is one of the "old reliable" farm papers. For thirty years it has worked for the best interests of American farmers, and it has a million dollars capital behind it. It prints and circulates every month more copies than any other farm paper in America. It is edited by farmers for farmers—a practical, clean farm paper.

The foremost authorities on agriculture in America write for FARM AND FIRESIDE. They are men who are known by almost every farmer from Maine to California and from Minnesota to the Gulf. Articles by these men cost money—lots of it—but they are worth it, because nothing is too good for the FARM AND FIRESIDE family.

The Contributors

In addition to Mr. Grundy, Mr. Greiner and all the other well-known FARM AND FIRESIDE authorities, here are a few of the men who are contributing to FARM AND FIRESIDE this year:

PROF. BAILEY, Dean of the New York State Agricultural College and writer of various books on agricultural subjects.

F. D. COBURN, Secretary Kansas Department of Agriculture.

EX-GOVERNOR W. D. HOARD, of Wisconsin, editor *Hoard's Dairyman* and Regent of University of Wisconsin.

PROF. G. I. CHRISTIE, of the Indiana Agricultural Experiment Station.

JOHN CRAIG, Professor of Horticulture, Cornell University.

CHARLES S. PLUMB, Professor of Animal Husbandry, Ohio College of Agriculture.

DR. H. J. WATERS, Dean of the College of Agriculture and Director of the Agricultural Experiment Station of Missouri.

DR. E. A. BRYAN, President of the State College of Washington and Director of the Experiment Station.

PROF. C. O. BULL, Assistant in Agriculture, University of Minnesota.

R. A. MOORE, Professor of Agronomy, University of Wisconsin.

The Departments

—fifteen altogether. These will be looked after by specialists and will cover every department of farm activity. Among them are Live Stock, Dairying, Review of the Farm Press, Poultry, Gardening, Fruit Growing, The Grange and many others, both for the farmer and his wife. There is no information about farm affairs that isn't covered by these departments. Probably the most important department of all is

Live Stock and Dairying

There is hardly a farmer in America that does not raise cattle, and these pages on live stock and dairying are so full of advice and suggestions that many of our big family have told us the live stock and dairying department alone is worth more than the subscription price. You will need it if you keep live stock. Then there is the Review of the Farm Press, a department made of the most helpful suggestions in other farm papers. If you read the Review of the Farm Press you won't need any other farm paper, because it embraces all. In addition to all this there will be

More Good Things

too, that we can't tell you about now. But they will be just what you want and something that other farm papers do not give their readers. We are saving these good things as a surprise to the FARM AND FIRESIDE family. Then, to cap the climax, we are going to give every one who accepts one of these special limited offers the

PUBLISHERS' FREE GIFT

THE ARTIST'S REPRODUCTION



"MOTHER AND BABE"

This is a picture of "Mother and Babe," the magnificent \$1,500 oil painting that we have had reproduced in beautiful polychrome especially for the members of the FARM AND FIRESIDE family. We want one of these handsome artist's reproductions to adorn the walls of every FARM AND FIRESIDE home. This painting is America's Masterpiece and one of the most beautiful paintings in the world. It is the work of Mr. Earl Stetson Crawford, who has already taken first prize in nine art contests. In fact, this painting itself took first prize in one of the largest contests ever held. There were over five thousand paintings in the contest, from all over the world, and the committee of award, headed by Sir Caspar Purdon Clarke, director of the Metropolitan Museum of Art in New York, decided that this painting of Mr. Crawford's was the best of the five thousand or more submitted. Mr. Crawford has studied under the world's best masters. He is one of America's most noted painters. Surely you want his greatest masterpiece in your home when it doesn't cost you a cent!

Look at the picture again. What prettier or more tender sentiment could be expressed in a painting than a mother with her baby in her arms longingly waiting at the window for the first glimpse of her husband as he returns home in the evening! No wonder the famous artists on the committee of award thought this picture one of the most beautiful they had ever seen! It is a masterpiece in every sense of the word—one of the world's greatest paintings.

REMEMBER THIS!

You cannot buy this masterpiece. You cannot buy even a reproduction of it for love or money. But you can get one *absolutely without cost* by accepting either one of the two liberal offers on this page. Don't wait until they are all gone.

SEND YOUR SUBSCRIPTION NOW

How You Get It

It is worth something to us to have you in the **Farm and Fireside** family, and it is worth something to you to save money. Therefore, if you will accept either of these offers within thirty days, and send the money to us with the coupon below, we will immediately enroll you for **Farm and Fireside**, and send the beautiful polychrome reproduction of Mr. Crawford's greatest masterpiece, "Mother and Babe," *absolutely without cost*.

Offer No. 1

25c

gives you **Farm and Fireside** one whole year—twenty-four big numbers—with all the good things enumerated, including the magnificent polychrome reproduction, the publishers' free gift.

Offer No. 2

50c

gives you **Farm and Fireside** three whole years—seventy-two big numbers—with all the good things enumerated, including the magnificent polychrome reproduction, the publishers' free gift.

Remember, these offers are limited. Accept one now.

Rush the coupon on this page before October 10th.

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FARM AND FIRESIDE,
SPRINGFIELD, OHIO.

Date.....

I accept your special limited Offer No.....for which I enclose..... It is understood that I am to receive, absolutely without cost, a beautiful polychrome reproduction of the "Mother and Babe" if this coupon is sent by October 10th.

Name.....

Rural Route.....

Town.....

State.....

A BLUE MARK

in the square below indicates that you are an old subscriber and that your subscription has expired.



Renew by accepting one of these offers before they are withdrawn.

MONEY VALUE OF BEAUTY

It is not only the fruit tree planted in the right spot that increases a place's value. While with its annual crops it bears heavy interest on money and labor invested in first cost and care, and the most beautiful tree on the lawn gives no fruit, and apparently no annual returns, yet in my own vicinity I can see every day that there is cash value in the beautiful appearance of a rural home. Even the town assessor will tell you so.

This is a district of suburban homes and small farms, the premises ranging in area between one eighth or a quarter acre and a dozen acres or more. The ownership of many of them is frequently changing. Some of them are occupied by tenants, these being clerks or other employees of the large factories near here. You will find that the demand, both of purchasers and renters, is always for the homes planted with fruit and ornamental trees, and that purchase price as well as rent rate are materially higher for such places than for mere houses standing in bare, empty lots. The most beautiful place sells quickest, at best prices, and brings highest rent.

The first thing that I, as owner of a suburban home, know I have to do is to plant not only a judicious selection of fruit trees and small fruits, so as to provide these essential comforts for the near future, but also make a nice lawn in front, and set a few shade trees in the road, and some beautiful ornamental trees or shrubs here and there near the house, and make every effort to beautify the entire premises, and have the full enjoyment of it during the time of my occupancy, or make the home so attractive that it will never lack a buyer, in case we want to sell.

Beauty has a cash value. It does more. It attaches the children to the home. It aids in developing their esthetic sense, orderliness and good taste, and in this respect is an effective means of discipline and education, and even as such is of money value.

T. G.

CHARCOAL ON THE FARM

Properly prepared charcoal is one of the best intestinal disinfectants that can be had on the farm. It is especially valuable as a preventive for hog cholera. I feel confident that I saved a large herd of hogs a few years ago by its persistent use at a time when nearly every other farmer in my section was losing hogs by the

which are covered over with earth during the process, to prevent the escape of air. These doors are hinged to plank, "n," on the side, and rest on a cross rail, "c," in the center, which in turn has for its support posts, "e," driven into the ground on either side.

To char, start a small fire in the bottom and center of the pit, and on this add cobs slowly until the fire is drawn gradually to the top of the pit, after which place on the iron cover, close the doors and make air tight with a layer of earth. After the mass has smoldered for ten or twelve hours they should be removed and spread out, to prevent the possibility of after combustion and burning to ashes.

For the hogs I have a self-feeding trough, that is kept filled, that they may help themselves to it as they want it. To encourage their eating liberal quantities I add enough salt to make it "tasty," together with a sprinkling of sifted hardwood ashes. To the horses and cattle is given a handful each day with their feed. For the poultry it is pulverized very fine and mixed with their mash. The sheep get theirs with their salt, only enough salt being added to make them lick it up clean. I find that by its use most all of the ordinary stomach and bowel troubles are avoided. It absorbs the foul gases and poisons and germs of disease and keeps the intestines cool, open and healthy.

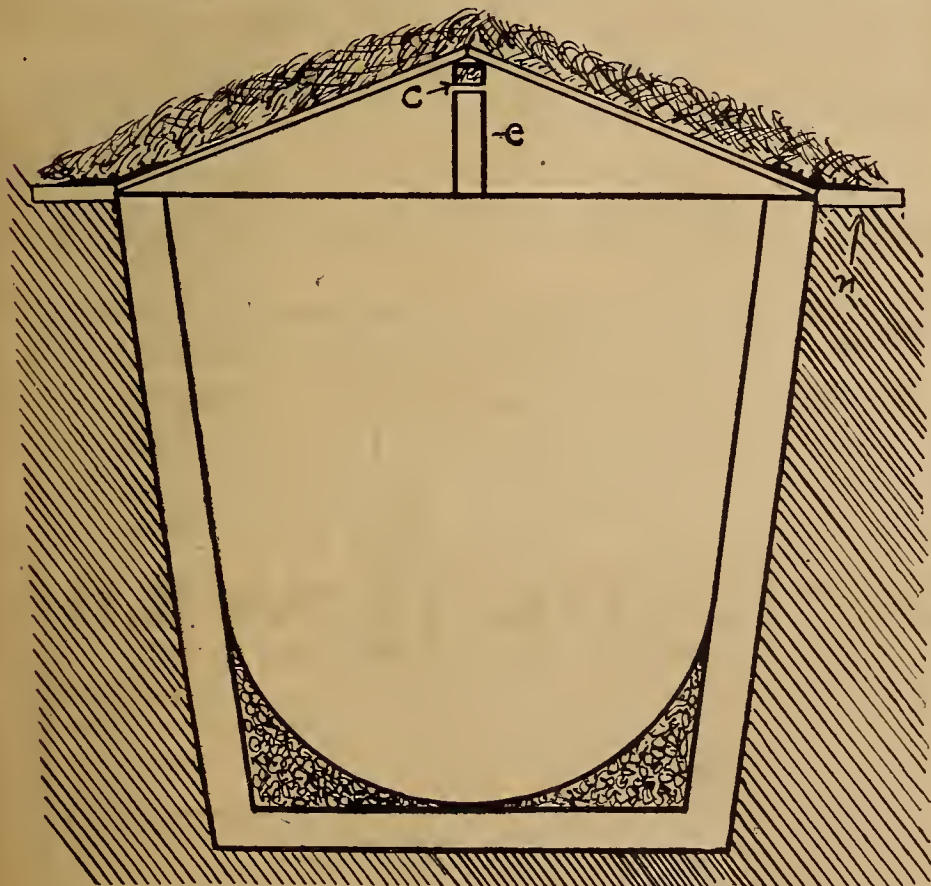
R. M. WINANS.

MULCHING YOUNG TREES

Many trees die during the hot, dry weather for lack of proper care. A man cannot set out young trees, bid them fare-well, and expect to come again and gather fruit therefrom. He will simply be greeted by dead stubs or dwarfed and worthless trees.

Now, in order to preserve the life of the young tree in the heated summer season, I have found mulching to be very helpful. Old straw, hay, mowed weeds or rotted manure makes a good mulch. Corn cobs and chips from the woodpile are not to be despised, for they will fertilize the trees as well as hold the moisture about them. It is very essential that the young trees get well rooted in the earth by winter time, and this cannot be done unless there is sufficient moisture and the ground has sufficient fertility.

Last spring a man gave me a good-sized apple tree he had dug from his orchard. I set it out in my back yard. The man who helped me put it there



CHARCOAL PIT

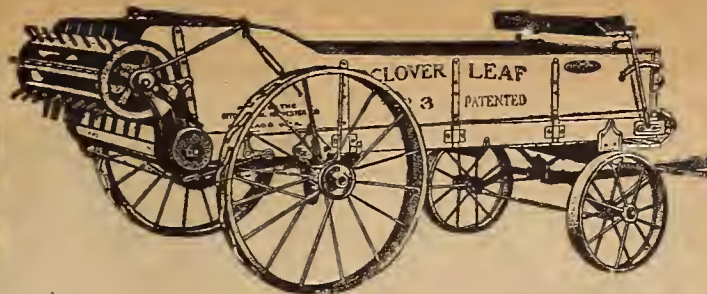
dozen with this disease. It is not a cure, although it will do much to aid in eradicating the disease from the system; but it is a preventive of the first order.

Corn cobs make a good charcoal, providing they are charred properly, and this I had much trouble in doing until I made a walled pit similar to the outline shown in the cut. The size most desirable for the individual need will be determined by the amount of stock kept and the frequency of burning, or charring. My pit is eight feet deep and six feet across the top, tapering to the bottom. Because of loose soil I found it necessary to wall with brick filling in the bottom with concrete to make it concave, as shown. Where the soil is stiff and a small pit is dug the wall may be dispensed with. If I were building again I would make wall of concrete, surfaced with cement. Directly over the top is placed a heavy piece of sheet iron, to prevent burning the wooden doors,

shook his head and said it could not live. In the first place, he thought the tree too large to be transplanted, and secondly, he believed the roots were cut away too closely. I told him I was almost certain I could preserve its life. So I filled the dirt around the roots, pressing it down closely with my foot; then I poured a bucket of water about it. After it had been filled in thoroughly with the dirt, I went to the barn yard, secured some well-rotted manure, and spread around it. The next day I mowed my yard with the lawn mower and raked the grass over the manure. I kept the tree mulched with the grass, and watered it late in the evening in the dry, summer months whenever I thought it needed it.

Did it live? Of course it did, and will no doubt make a fruitful and profitable tree. It pays to take care of the young trees.

W. D. NEALE.



Big interest on your investment.

A Farmer who knew said that if a man did not have the money to buy a manure spreader, he could afford to borrow it, pay 50 per cent interest, and still make money.

This shows how extremely profitable the use of a manure spreader is.

It will make more than 50 per cent per year on the investment.

It increases the fertilizing value of barnyard manure, the only fertilizer produced on the farm, fully 100 per cent, and when you remember that this barnyard manure is worth about \$2.00 per ton, you know how much money a spreader makes for you on every ton of manure hauled into the field.

Of course, you must be sure and buy a good spreader. We mean a strong, dependable, practical machine—one that you can load up day after day and drive into the field with absolute certainty that it will spread as many loads per acre as you desire.

The I. H. C. spreaders, Corn King and Cloverleaf, will do this. They can be regulated to spread any number from 3 to 30 loads per acre. The principal point of difference is in the apron. The Corn King is a return apron machine and the Cloverleaf an endless apron machine. Both spreaders are replete with valuable features, not found on other spreaders.

For instance, the single lever on the I. H. C. allows the driver to make every adjustment—

change the rate of feed, return the apron, start the machine, or stop it.

Then again there is the vibrating rake, a feature not found on any other spreader. You know that when first starting the machine, if not properly loaded, the manure is apt to pile up against the cylinder and clog it. Perhaps great chunks will be thrown out until the load is properly fed. The vibrating rake on the Cloverleaf and Corn King spreaders prevents this irregular feeding. It levels the load before it reaches the cylinder and insures an even and uniform distribution of the contents. You won't find a whole lot coming out directly over the center and none at all at the sides, but instead an even distribution the full width of the cylinder.

There are many other excellent features about these spreaders—both wheels are drive wheels, the steel wheels cut under the box, the apron never binds nor buckles, the front axle is well trussed, the frame is staunch and absolutely rigid.

We suggest that you look into this question of a profitable manure spreader very carefully. The local agent in your town will gladly demonstrate the line he handles. Or write the general office for catalogues, colored hangers, or other information desired.

Send for copy of "Farm Science" or "Wasteful Farm Practices" which contain very valuable information on agricultural subjects of special interest to you.

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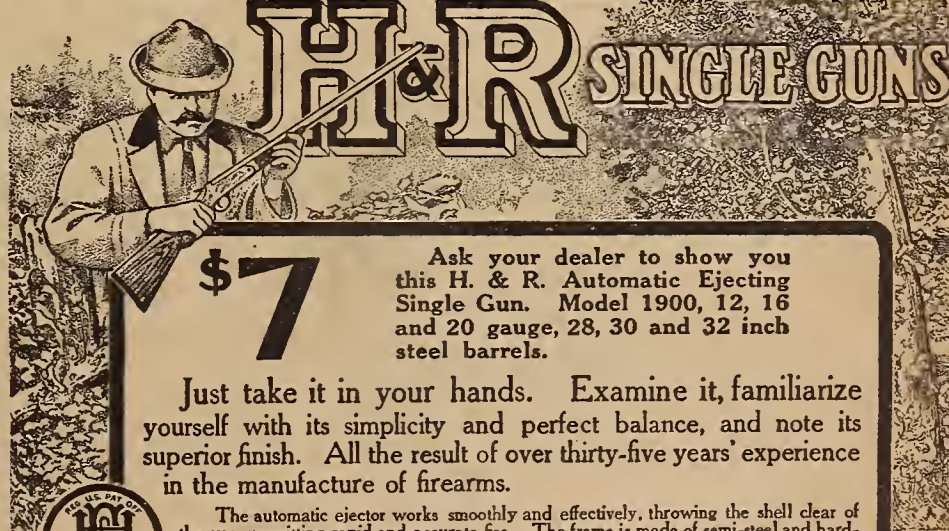
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The barrel can be unhinged or put together in an instant, a quarter turn of our patent hinge or joint pin locking or freeing it. Choke bored for close, hard shooting. Its shooting qualities will compare favorably with any high-priced gun.

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PITHY POINTS FOR PONDERING FARMERS

The way of farm life is sweet and wonderful.

Some horses are as lazy as their drivers would be if they were a horse.

A race horse is a thing of beauty which is not made in a day, nor a year.

The knowing and doing farmer is always the growing and going farmer.

The man who swears at his team will eventually swear at his wife and children.

That man gets most out of farm life who begins early in the day to put something in.

Happy is the man who loves the farming business well enough to attend strictly to business.

Success comes to the farmer who keeps his teams "tugging" away at something all the time.

Make room on the inside for all machinery and tools that are not in use on the outside.

An Illinois farmer who has about a hundred hogs counts them every time he feeds them. A good idea.

The man who bites on the bait of the sharper gets bit every time. Tell him to call when you send for him.

This motto should be tacked up in every barn: "Please do not smoke inside this barn. One spark may cause a world of harm."

The farmer who counts the benefits of farm life by the dollars he has to his account in the bank at the end of the year is not much account as a counter.

The farm is good enough for some farmers until they take a notion that city life would suit them better, and after they have spent a year or so in the city, the farm is still good enough for them.

Your team can rest better during the noon hour with the harness off. To rush into dinner without conferring this small favor on your horses is a sign of laziness or cruelty. Make it as easy for your team as possible.

"You may lead a horse to water, but you cannot make him drink," is as true as gospel, but many up-to-date farmers are making their horses drink without leading them to water—they allow the water to come to the horses in the stall.

A busy author and lecturer spent a week on a farm with an old friend. He spent several days in the field behind the plow.

"You look very much out of place behind that plow," remarked his friend.

"I do not feel that way," replied the visitor, "but I do consider it an honor, for this, to my notion, is the most honorable work on earth. This is my vacation."

A farmer's happiness needs attention, like the crops in his fields. There is a plowing, harrowing and preparatory stage of happiness, which comes at the time when he is plowing, harrowing and preparing for his crops. There is a cultivation and harvesting stage of happiness, which also comes at the same time that the farmer cultivates and harvests his crop. The beauty is that from the first stage to the last he is happy.

W. J. B.

AGRICULTURAL NEWS-NOTES

Canada is reported as producing one million eight hundred thousand pounds of maple sugar annually. This is nearly two thirds of the world's production.

Twenty carloads of cantaloupes were shipped about June 12th from Brawley, California. The total crop at that point was estimated at five hundred carloads.

The progress and growth of the United States Department of Agriculture is a fair indication of the progress which the individual American farmer of to-day is making.

One grower of celery at Canon City, Colorado, where irrigation is practised, is said to have realized \$1,575 from one and one half acres. He estimated the cost of production at \$250.

The progress which has been made in alfalfa culture during the past ten years has been unprecedented. Its popularity throughout the entire country is constantly increasing. Great is Alfalfa.

The "Hay Trade Journal" calls attention to the fact that in the spring of 1870 the New York City quotations for hay were \$40 to \$48 a ton. In August of the same year prices ranged from \$14 to \$20 a ton.

Clark's seedling strawberry is a success in the Willamette Valley, Oregon. The matted-row system yielded four thousand pounds an acre. This variety has im-

ROOFING DIRECT FROM FACTORY TO FARM AT FACTORY PRICES

If you wanted to buy a certain bunch of steers would you hire some one to buy them for you and pay him a commission, or would you go and buy them yourself and save the commission?

Buy them yourself, wouldn't you?

Well, then, why should you buy prepared felt roofing from a lumber or hardware dealer and pay him a profit when you can buy direct from the factory and save his profit?

Another thing to consider.

Dealers always buy roofing from wholesalers (large lumber, sash and door or hardware companies). These wholesalers have traveling salesmen whose railroad fare and hotel bills must be paid. Do you realize that, every time you buy a roll of roofing from a dealer, you are paying both the dealer and the wholesaler a profit, and helping to pay the traveling man's expenses?

MICA-NOID READY ROOFING was sold through dealers for eighteen years, but three years ago we decided to try selling direct to the farmer at the dealer's price. The results have been away beyond our expectations. We are selling each month a little over three times as much roofing as we formerly sold through the dealers and jobbers.

There is a mighty good reason for it.

MICA-NOID READY ROOFING has been on the market long enough for thousands of people to prove that it will last a lifetime. And yet bought direct from the factory, the price of MICA-NOID is not any higher than that of hundreds of imitations that have been put on the market during the past few years.

Can you afford to put your good money into roofing that has not years of results back of it? Do you want a roofing that's good for life, or one that you will be patching every few months as long as it is on? Do you want a roofing that can be applied without ever taking the old shingles off, a roofing that can be used for siding, a roofing that is affected by neither the hottest summer sun nor the cold of the coldest winter?

MICA-NOID READY ROOFING is all we manufacture or have manufactured for eighteen years. We want you to know what others have found it to be during that time.

Send for FREE samples and booklet of letters from farmers who have used MICA-NOID for years.

MICA-NOID READY ROOFING

Mica-Noid Manufacturing Company
115 Mica-Noid Bldg., St. Louis, Mo.

CAUTION:—No MICA-NOID ROOFING has been sold to dealers since January 1, 1903. Any dealers or jobbers offering any roofing under the name of MICA-NOID will be prosecuted.



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THE HEART OF THE GREAT WHEAT BELT

The Heart of the Great Wheat Belt

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- Tells you all about others' experiences with letters from happy people who have made their best start in life and fortune by either going to Sas-kat-che-wan or buying fine wheat lands there.
- Tells you all about the Soil, big crops of All Wheat, Barley and Oats raised there—the quick profits—the easy-to-get-to markets—the towns—the splendid railroad facilities—the elevators—the great water supply and the invigorating climate.
- Tells why over 150,000 people went to Canada last year and why over 300,000 are going this year—about your neighbors, mostly Americans, with some thrifty Swedes and Germans.
- Tells you why it pays you better to take a 160-acre quarter-section Whent Farm here instead of a "homestead" way off from the railroad and market.

The Saskatoon & Western Land Co., Ltd., 410 Main St., Winnipeg, Manitoba

proved greatly since it was originated in that locality. Twenty-four-pound crates are used in Oregon.

According to the June report of the secretary of the National Grange, twelve subordinate Granges were reorganized and forty-nine new ones established between April 1st and July 1st. This is an excellent showing for this conservative, substantial farmers' organization.

The immense peach crop of Arkansas this season, which is estimated at twenty-five hundred carloads, goes to show that our great country can be depended on to furnish almost any special crop in the fruit line. A failure in one locality is sure to be offset by an abundant yield in another.

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FARM AND FIRESIDE



AN ILLUSTRATED FARM AND FAMILY JOURNAL

EASTERN EDITION

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24 NUMBERS

Alfalfa and Lamb Feeding

LAMB feeding in Colorado for the Eastern markets has been a boon not only to the farmers of that state, but to the farmers of other Western states who followed the example of their brother farmers of the Centennial State.

It has helped in other directions, also. For instance, the sheepmen of the great Western ranges have been benefited, as the demand for feeders has made an excellent market for their young stock and has had the effect in the last fifteen years of fully doubling the price of range lambs.

In the early days of lamb feeding in Colorado the feeder lambs were secured principally from southern Colorado and New Mexico, and consisted of what is known as the Mexican lamb, a small, fine-wooled animal of a strong Merino strain. I have known the time when these lambs could be bought in the bunch for a dollar a head; but the general price in those days was one dollar and twenty-five cents a head. Of late years, since lamb feeding came to be carried on on such a large scale in Colorado and neighboring states, the range men have been able to obtain two dollars and twenty-five cents a head, and do not have to hunt purchasers, either; the purchasers come to them.

After a time the demand for feeders became so extended that purchasers were obliged to seek other fields for stocking up their pens, branching out into Utah, Idaho, Wyoming and other range countries of the Far West, and were obliged to buy a larger animal.

The Mexican lamb when purchased for the feed pens weighed between forty and forty-five pounds, but the Northern lamb, which is largely of the Shropshire breed, weighs from sixty to seventy pounds. The Colorado feeders who were prejudiced at first against this lamb have found by proper treatment that the Northern animal can be made as good a source of profit as the smaller lamb.

So both the Northern and Southern range men have been greatly benefited and have made more money from their flocks than they ever did before. Under the old conditions the principal revenue of the range man was his wool clip, but now buyers each season hunt him up on his ranch and take his lambs, big and little, and pay him good prices for them.

In this way the range man is able to keep his herd just as large or small as he has a mind, and is never compelled to overstock his range. Another class that has been largely benefited by Colorado lamb feeding is the corn raising farmers of Kansas and Nebraska; for corn is used almost altogether as a supplemental grain ration to alfalfa hay in the process of feeding.

When the Colorado men began feeding



lambs they were able to lay Eastern corn down at the feeding points, like Fort Collins, for instance, at forty-five cents a hundred pounds; but so heavy have been western demands that now they can get corn at no such prices, and I have known the time when Colorado feeders have had to pay as high as one dollar and thirty cents a hundred pounds. Thus it

In 1880, when I first went to Larimer County, which was the pioneer in the lamb-feeding business, and is the banner county in the state, if not in the entire West for this special line, the farmers were raising wheat almost exclusively. There had been many good reasons for doing this, for the farms were new and would produce wheat at the rate of forty

the acre ran down as low as eighteen bushels; then came a drop in the price of wheat from two cents to three fourths of a cent a pound.

The farmers could not stand this falling off both in yield and price, and began to look about for some crop that would yield a profit as well as act as a restorative to the soil.

As it happened about that time—and that was in the middle eighties—a Fort Collins man had read something about alfalfa and its culture in California, and he thought so much of the matter that he concluded to send to California for some alfalfa seed.

He acted upon the suggestion, and sowed this seed upon a farm of his which lay a few miles to the east of Fort Collins.

The plant took most kindly to the Colorado soil, climate and system of irrigation in vogue, and the crops that the Fort Collins man raised were the wonder of his neighbors as well as all other beholders.

He could cut from three to five cuttings off the same ground in a single season, have some fine fall pasturage, and repeat the process year after year with no apparent lessening of the soil's fertility.

The hot, dry summers supplemented by copious irrigation caused the plant to grow to perfection, and the same hot, dry summers enabled the farmers to cut, cure and stack the alfalfa in the very best condition, and the annual yield of the hay to the acre ranged from four to six tons.

Thus far the alfalfa proposition was all right. And again when the Larimer County farmers plowed up their older alfalfa fields and put them into some other crop, it had been discovered that the soil had not been impoverished, but, on the contrary, had been much enriched. Sixty bushels to the acre was the order of the day, and two hundred and fifty bushels of potatoes to the acre upon broken-up alfalfa ground was no uncommon yield.

So the farmers of Larimer County raised more and more alfalfa, until they had supplied all their own demands as well as those of the market both at home and abroad, and then they did not stop.

The consequence was that in a few years a vast surplus of alfalfa hay began to accumulate and the farmers did not know what to do with it. Then by accident a solution to the problem was discovered.

A firm of Larimer County sheepmen, range men of course, found themselves one stormy winter's day in Fort Collins with a bunch of spring lambs. I do not remember whether the lambs were bound to or from the range, but I know they were range lambs and had been dropped in the previous spring. To tide over the



FEEDING LAMBS BY THE TENS OF THOUSANDS

will be seen that this one industry has been productive of prosperity all along the line.

Connected with this industry is quite an interesting bit of history which dates back to the introduction of alfalfa raising in Colorado, and goes to prove what a very valuable forage plant that is.

to sixty bushels to the acre, and wheat sold in the Colorado markets at two cents a pound.

But continued cropping to wheat year after year will exhaust the best and richest soil, and the soil of Larimer County was no exception to the rule. Land that at one time had produced sixty bushels to

storm the sheepmen bought a stack of alfalfa hay near town and drove their lambs out to feed.

It was a very severe blizzard and a protracted one, and the lambs had no shelter save their own fleeces and the lee side of the hay stack; but in spite of this the lambs did well and looked so nice and plump after the storm that the owners decided to continue the feeding until the lambs were fat enough for mutton, and then put them on the market.

The lambs got fat; were shipped to market, and sold at a good profit. That was the beginning of lamb feeding in Colorado.

In 1900 not less than three hundred and fifty thousand head were fed in Larimer County, and in the state at large about seven hundred and fifty thousand were fed. This year Larimer County fed six hundred thousand head, and the state fed about a million. In Larimer County one farmer alone fed thirty-two thousand head.

The process of feeding is briefly this: In September the farmers or their agents begin to buy their lambs from the ranges. From the ranges the lambs are driven to the nearest railroad shipping point, and there billed through to the Missouri with a feeding-in-transit permit.

At the feeding point the lambs are unloaded and driven directly to the feed pens and put on the exclusive ration of alfalfa hay. In about a week they are given a ration of corn, and this feed is kept up until the lambs are in condition to ship. Then they are forwarded as far as the Missouri River on the old bill of lading, with the excess weight incident to growth paid by the shipper. East of the river satisfactory rates are always obtained.

The great bulk of the lambs are sold in Chicago, but at the same time South Omaha, Kansas City and Saint Joe take large numbers.

The shipping of lambs to market usually begins soon after the first of January, and some years it is kept up until nearly the first of July.

The Chicago price usually ranges from six to eight cents a pound, and these are always satisfactory to the feeder, who figures that if he gets six cents a pound for his lambs he will net three dollars a ton for his alfalfa.

And this is the way Colorado came to raise alfalfa and to feed lambs, two operations that have made the farmers of that state very prosperous indeed.

H. A. CRAFTS.

THE CARE OF FARM TOOLS

It is the exception, not the rule, to care for the farm tools and machines as they should be. Nine farmers out of ten—if not ten out of nine—lose many good dollars every year by their neglect to have a place for everything, and to keep it in place when not in actual use. Some are frankly careless, and leave things out in all sorts of weather. Some have no shelter provided, and do not appear to realize that it would be cheaper to purchase unfinished lumber for sheds than finished tools at trust prices. The amount paid for a harvester would purchase enough lumber to shelter all the tools used on the average farm of forty or eighty acres. Some farmers care for their tools fairly well during the winter, but leave them exposed for nights and days to heavy dews, sun and rains during the season of use.

I am not advocating the building of a tent over the mower or harvester while they are in actual use, but so many are left out every night and often for many days, also. It would take but a few moments to place them under shelter at the close of day, and the farmer will be abundantly repaid for his care in the better service and length of days that his tools will give. Bright iron and steel and dry woodwork will give better service than rusty iron and warped wood. With good care a harvester on the average farm will last ten or fifteen years, but the same machine if sheltered in a fence corner or on the north side of a tree between harvests, as I have seen done in too many cases, will need expensive repairs in two or three years, and in five will be worth about what it will bring for old iron. No man is so poor that he can afford to leave such machines to the protection of a snow bank.

The plow that is left in the furrow during a rainy spell may not rot, but it will rust, and thus draw harder, and the handles will be roughened and weakened. The hoe that is left hanging on the fence or stuck handle down in the ground for days or weeks will not be any easier on the hands or the back of "the man with the hoe." The limb of a tree seems purposely created to hang a scythe upon, but it is not pleasant to contemplate what might happen if a child should throw it off or an animal dislodge it. Even though it escapes such a fate, like the hoe, it is not improved by the exposure. Rakes, tedders, hay loaders, harrows, cultivators, etc., are left out in the sun and rain, reducing the farmer's profits more than he imagines.

The farm wagon is in many cases the

most abused of all. It has more than a hundred joints, where, if exposed, moisture will enter and start decay, and very few wagons are kept properly painted. Not one wagon in a hundred wears out—I doubt if one in a thousand.

Money spent for good paint is one of the best investments that the farmer can make. If the farm machines and tools were kept well painted, and properly protected from sun and rain, there would be many less millionaire manufacturers of implements and vehicles, and the farmers as a class would oftener have a good bank account.

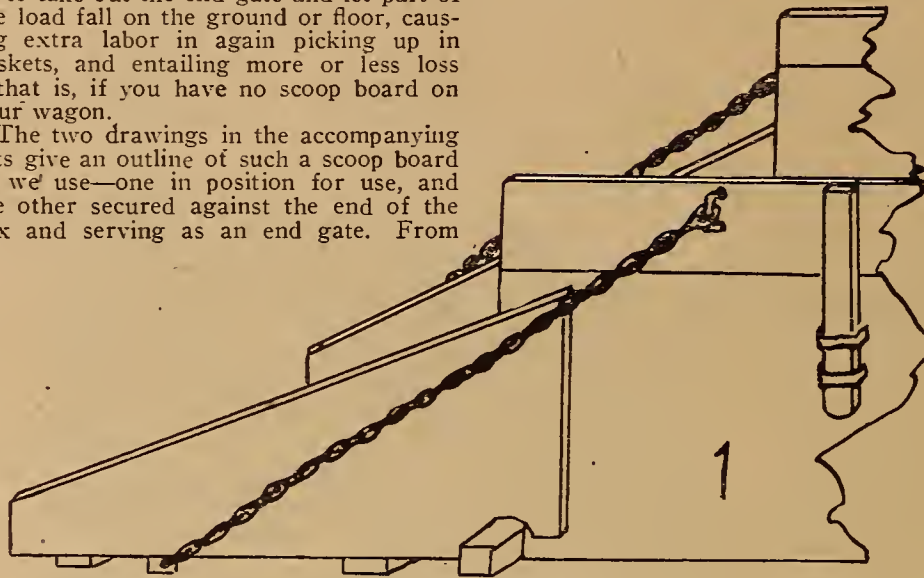
There is no occupation that gives better returns in health, happiness and contentment than that of tilling the soil, and if better business methods were used and the small leaks stopped, the financial returns would also be satisfactory.

APOLLOS LONG.

A HANDY SCOOP BOARD

In hauling corn, potatoes and other grains and root crops in the wagon box in bulk it is necessary, when unloading, to either take out by hand enough from either end to permit the use of the scoop, or to take out the end gate and let part of the load fall on the ground or floor, causing extra labor in again picking up in baskets, and entailing more or less loss—that is, if you have no scoop board on your wagon.

The two drawings in the accompanying cuts give an outline of such a scoop board as we use—one in position for use, and the other secured against the end of the box and serving as an end gate. From



SCOOP BOARD OPEN

these drawings can be gained a clear idea as to its construction, so that any man with a hammer and a saw, nails and a couple of pieces of chain can make one for himself. It requires but little lumber, and enough for the purpose may usually be found lying unused about the buildings.

The depth of the scoop should be six or eight inches more than the height of the wagon box and wide enough so that the sides will just pass over and fit snug against the sides of the box.

The chain may be fastened, as indicated, to pieces nailed as cleats on the bottom of the scoop, but we find it better to have the chain pass continuously from one side around under the box to the op-

posite side. This gives added support to the scoop when down, and the greatest weight is on it. Heavy staples, large enough to receive a second link fastened with an iron pin, as shown in the lower cut, should be securely clinched or bolted through the wagon box.

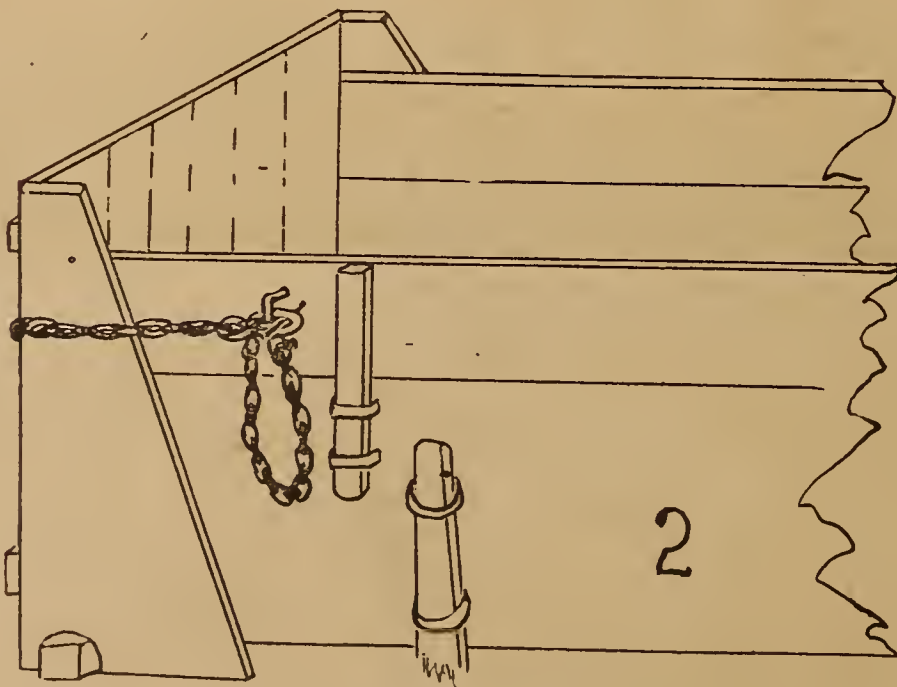
If an iron corner brace is placed on the outer end outside, the scoop when in position as tail gate will serve as a substantial brace against the spread of the end of the box when heavily loaded.

R. M. WINANS.

CONVENIENCES OF THE FARM

To the farmer the matter of time is very important. No man rises earlier or puts in more hours. None needs the advantage of good management more than he. At certain seasons the farmer's time is worth as many dollars as there are available hours.

If the gate opens of its own accord, or if we can open it without getting out of the vehicle, the gain is considerable. If the water is drawn by the wind, so that we do not need to use the time for pumping, we not only save time, but our cattle and horses are the recipients of better attention. It should not be, but is, a fact



SCOOP BOARD CLOSED

that the matter of inconvenience whereby our labor is increased determines in part the amount of attention we devote to our stock.

So, we may say, time is saved by the proper conditions regarding tools and implements.

We should possess such articles ourselves, and thus be spared the expense of borrowing.

We should keep them in condition for use. This is not the case when implements are dull or rusty. Nor is it a wise plan to put a tool away in a broken or crippled condition. Let it be mended, and properly mended, before it is laid away.

All such commodities should have

vices, quite as useful, that may not be found ready made. It is an admirable plan to have a workshop on the farm, with an orderly supply of material always within reach. Hickory, ash, oak and elm stuff can be kept in reach for handles, pins and frames, and any commodity not sold in the shambles can be created.

In half a day I made the sides, door, top and crates of a dry kiln, to fit over our gas fire in the wash house. In this kiln we can desiccate two bushels of apples, peaches or prunes at a time; and when they are done it takes less than five minutes to detach the parts of the contrivance and put them away for the next occasion.

In a day I made a roller for the truck-patch, from the castaway cylinder of a thrashing machine, teeth and all. It is arranged with shafts and singletree to be drawn by a horse; and when the ground is not too moist it crushes the clods and leaves the surface looking like a garden bed.

From the rolling cutter of an old breaking plow I made a cutter for clipping the vines of strawberries and sweet potatoes, and it does away with much of the labor and difficulty of getting through them with my hand plow.

I had made at the blacksmith shop an iron hook with a loop hand-hold at the other end, with which I can reach in among the canes, near the ground, in the blackberry row and twist out every dead stalk.

I made a tree saw out of an old wood-saw blade, fastened at the extremities to a castaway buggy rim. This fastened to a shaft five feet long reaches limbs in portions of the tree not accessible from a step ladder, and it works rapidly. It is easier than a hand saw, even where that can be used, because I can employ both hands.

I have a garden roller made from a stove-wood length of the trunk of a maple we wanted removed, and having had it trued at a turning lathe, I can run it as lightly as a baby wagon. The tongue is taken from a worn-out lawn mower. It smooths down the surface of a newly planted garden bed, so that chickens are not tempted to scratch out the seeds. It reduces about all the clods not otherwise crushed, and there are few implements in my kit that I value more highly.

One of my neighbors has a movable ladder for picking cherries. It is bolted to the axle of an old vehicle, and the upper extremity connects with a support fastened to a pair of "hounds," the support reaching the ground five or six feet from the two wheels. It is quite easy to move about, and can be drawn right "into the tree."

It saves the most laborious part of the cherry picking. We harvested over two hundred bushels of cherries with four ladders constructed after this fashion. It removes the danger of falling, and saves all the limbs from the damage incurred in the support of the common ladder.

Our gas fire-mentioned above is available here, because we live in the gas belt; and only the little expense of piping and the cost of putting together a horse-shoe-shaped burner made of inch gas pipe were involved. Over this fire we can heat wash water, render lard, make apple butter or soap, and warm the dry kiln. People not living in the region of the natural gas can have the same contrivance by the use of gasoline or alcohol. It will prove worth many times its cost, and could be fixed in the barn on a scale large enough to boil feed for the cattle and hogs.

I have an elevator in my barn for raising bales of straw or hay and bags of seed. It is a windlass made of a limb from that same maple tree. It is straight and round and true enough for that work. The crank is from an old fence machine, the rope from a nursery bale, and with a snapper from a broken buggy line may be said to complete the outfit. It is of course supported by a frame depending from the barn rafters.

The same contrivance may be adapted to what is called a "dumb waiter." This is a box of shelving to contain things best kept in the cellar. It saves the women many a step, and it can be so fitted as to tally with the kitchen floor and be not at all in the way.

WALTER S. SMITH.

Have you ever realized with what absolute confidence and safety you can deal with any of the firms advertising in FARM AND FIRESIDE? We are so careful, that none but reliable advertisements are accepted. But if, in spite of using ever so much care, we should make a mistake and admit a fraud, and you should deal with him, the loss would be ours, not yours. Read our guarantee on the Editorial Page.

HOW MAY IT ALL BE MANAGED?

Gates that open, pumps that supply water like the perennial spring, and all other time-saving devices, are manufactured and can be had for the requisite number of dollars. There are corn shellers, meat choppers, feed cutters, lawn mowers, ratchet braces, saws of fourteen kinds, ladders, wheelbarrows, etc., on the market, all of which can be provided more cheaply than we can do without them. Parsimony in such matters is not economy.

On rainy days we can make many de-

There are some things about farm life that others may have a better knowledge of than yourself. You can read FARM AND FIRESIDE with the assurance that you will learn something which you do not already know.

HOW TO INVEST SAVINGS

Here is a letter from a sixteen-year-old boy, who will not be poverty stricken when he reaches old age, unless serious accident befalls him. "I am living at home and working for a neighboring farmer for fifteen dollars a month. I now have saved up sixty dollars. I pay my folks four dollars a month for bed and breakfast and washing, so I will have eleven dollars a month clear, and I wish you would tell me where to put it to make it earn me a little of something. I have just hired to the farmer for a year, and he pays me fifteen dollars a month for the first six months, and eighteen for the next. He is a nice man, and I have worked for him off and on nearly a year."

Another letter I received some weeks ago and have not yet answered comes from the wife of a farmer. She writes: "I made two hundred and thirty-six dollars from my poultry last year, and have kept it in a secret place in the house all this time. This year I will have to buy more things for myself and children, but still will have nearly two hundred more to put with the other. I think it is not well to keep so much money in the house, because it gives one the fidgets. What I would like to know is where you think it would be best to place this money to be safe, and also receive a little interest."

I have several other inquiries along the same line as above. These letters invariably come from people who are working steadily and have little time or opportunity to look about for safe places to invest or keep their earnings. As one writes, "I suppose there are lots of chances to loan my little wad not far away, but, you see, I am too busy to hunt them up. And besides, I know about as little about loaning money as a child, and I do not have time to post myself as I should."

I find that many of these people have been caught by the flashy advertisements of mining, oil, rubber and other stocks, and have lost most of their little savings by investing in them. Now they are hiding their earnings in and about their houses. Last year a man wrote me that he had saved up twelve hundred dollars, and he said he believed he would invest it in some mining stocks that seemed to him to be extra good. He sent me the prospectus of a fake mining company and asked my opinion of it. I promptly informed him that it was a fraud, and advised him to have nothing to do with it. He promptly forwarded my letter to the "president" of the company. The reply he received from that "official" buried and sodded me over. The company got his money, and three or four months afterward dissolved and disappeared. His wife wrote me that it was the savings of sixteen years, and its loss "made Sam almost crazy!"

There are banks in almost all towns that pay three per cent a year for money deposited in them, and they are as safe as a farm. In most cases the money must be deposited for a whole year to receive the three per cent, and some require thirty to sixty days' notice before it can be withdrawn. It is easy to learn who are the officials and chief stockholders, and any sensible, observing person can judge whether the institution is sound by the character of these men.

If one is not fully satisfied that his local bank is perfectly sound, he should not hesitate to patronize one in some other town. I know several cautious farmers who keep their surplus funds in several different banks. One forty-acre farmer I know has two hundred dollars in each of six different banks. The idea is well enough if one is keeping the money in them for the interest it draws.

Laws and regulations are making the banks safer every year, and it won't be long before every bank will be made as sound as a dollar.

Not many months ago a country bank went under and a large number of people lost their deposits. I wrote to an old friend living near the place, asking him how it happened, and if he lost anything. He said the failure did not surprise him at all. He had noted that the officials were "into everything," promoting this and that, and booming things they had no business mixing with, and he withdrew his deposits and placed them elsewhere. "No one," he wrote, "need lose anything in these country banks if he will keep his eyes open. Sound institutions don't dabble in politics just to boom friends into office. The officers are not prominent in race-horse circles, amusement parks or anything of that sort. When you see them going that way, or offering stocks and bonds for sale that are not listed as sound, it is time to get out from under."

Until we have postal savings I think it is a good idea to deposit one's earnings in his local bank, if it is sound, to draw three-per-cent interest. To be sure, three per cent is not very much, but it is some, and the money is safe and gives one no "fidgets" or uneasiness. Then if an opportunity to loan it at a higher rate comes along, one has it ready. Or a chance to buy a piece of very desirable property may

present itself, and one is ready to take advantage of it.

There is no more desirable investment for the homeless than a good home, and one should not let a good opportunity to secure one pass by. If he is not quite prepared to use it himself, it is not a difficult matter to rent it to a good tenant if he will make the rate reasonable, and thus obtain a higher rate of interest on his money.

As I said, one who is hard at work every day has very little time to look about for safely profitable investments; therefore I think the best thing he can do is to get his earnings into a good local or well-known substantial savings bank. Many leading savings banks are paying four-per-cent interest, but they are located in the big cities, and require several weeks' notice before the money can be withdrawn. This is to protect themselves from a rush, and is all right. If one thinks he is likely to have a chance to pick up a good bit of property almost any day, or to loan his cash at a higher rate, he should place his money in his local bank, taking a time certificate therefor. But if he does not expect to meet with any such opportunity, or desires to accumulate a certain sum for some purpose, than a sound savings bank paying four per cent is the place to put it. And probably it is a good idea to keep in mind the old lady's advice to not put all one's eggs in one basket.

I would especially advise wage earners and those whose incomes are small to carefully avoid mining companies and all other schemes of that character. And I have seen so much loss result through insurance investments that I would not advise any one to invest a penny in them. Life insurance in even a sound company is a form of investment that at best is costly. Economy and the building up of a fund in savings banks is better. The money is always yours, and you don't have to die to get possession of it when you need it.

WHAT CAN A WOMAN DO WITH A MORTGAGED FARM?

A Kentucky lady, who says she has an invalid husband and three children, owns a farm of a hundred acres, but it is mortgaged to the limit, and she wants to know if she could take charge of it, farm it and pay out. To many farmers this would ap-

pear to be a foolish question, but to the lady it is a serious one. And evidently she is honest and in earnest. The first thing she could do is to sell half the land, and, if possible, get the mortgage off the remainder, or at least reduce it. There is little pleasure or profit in farming heavily mortgaged land. After cutting down the indebtedness as much as possible she could tackle the remainder of the problem with some hope of success. Her fourteen-year-old son should be able to render lots of help, and he will soon be able to do a man's work. I note that more women, and men who have been injured in some way, succeed better with corn, clover and pigs as main crops, with poultry as a strong side line, than with general farming. She has an orchard that has seen its best days, and this has a pig-tight fence about it. She could cut out about two thirds of the trees and get the land in clover, and it would make a splendid pig pasture. There would be much more profit in this than in replanting to apple trees. If the orchard is not large enough to make a good pig pasture, use it for a pig yard and grow clover elsewhere. If the pigs are allowed to run on the clover only an hour a day, the orchard would furnish green food for quite a number. The best time to have pigs farrowed is when there is a prospect for at least two months of green feed to help give them a good start, and in Kentucky this would mean any time between the fifteenth of March and the first of September.

What this woman first needs is to give

BUSINESS FOR FARM BOYS

Two Ohio boys want to know what I think of a project they have under consideration. They have been asking their father to give them a couple of calves or a couple of pigs to raise, he to furnish all the grass and green food required, and they to pay him for the grain used in feeding and fattening them. He declines to do this because of the difficulty in getting at the exact quantity used, and for various other reasons. But he has offered them the poultry—chickens, turkeys and ducks. They to have full charge and do all the work connected with raising and management, to buy all the grains fed from him at market price, and to have two thirds of the entire output to sell for themselves. They are thirteen and fifteen years of age and are anxious to do something to earn money to "start a bank account."

I rather think they should jump at the proposition. It is a good one, as I know from the experience of other boys who have taken just such contracts. Besides the adoption of businesslike, down-to-date methods, the principal thing they will need is patience and a steady determination to succeed. The thing that boys most lack is steadiness. If they will make it a practise to do everything thoroughly and on time, and to always do their work before play, they will succeed.

I know one little fellow, who is as steady as a clock, who began on just such a project three years ago, and now has nearly five hundred dollars in banks drawing interest. His parents have repeatedly declared that they never had any



SENTINEL POPLARS

idea there were such possibilities in poultry. He gives his poultry most of his time when out of school, and one hour in the morning and two in the evening during the crop-growing season. He says he could do even better, but he wants some time for play. When he reaches his majority he will have a thousand, and possibly more, dollars to his credit. He is a thorough, businesslike poultryman.

FRED GRUNDY.

"HE WOULD BE A DANDY"

They had been thinking and talking about the new farm they hoped to have some time. Such a day as it would be when they were able to go out to the country and settle down on their own farm! The husband and father was quite as enthusiastic as any of the rest. He had been shut up in the office so long, it seemed to him he would take on a new lease of life when he could push aside the pens and the books of his daily toil and breathe the free air of the farm.

One thing they had settled on, and that was that even if they had only a few things in the way of stock and fowls, all would be of the best. The wife and the boys and girls were sure it would be a great mistake not to have some poultry. And those they had should be as good as the best. Then the little girl said, with eyes big and shining, "If we have only one rooster, he'll be a dandy, won't he, mama?"

And mother was sure he would. "He would be a dandy."

There is the text for us all, fellow-farmers. What if we should adopt it? Suppose we should all set out from now on to make everything on the farm just the best possible, how long would it be before the whole farming community would be revolutionized? For it is a fact that we are not all of us up to that standard which our little friend set for his grand old rooster. There are many things about our farms that are far from being "dandies," and you and I know it.

Somebody suggested to one of our farmers that it would be a great comfort and convenience to have some screen doors at the entrance to the kitchen.

"We don't need 'em!" was the response, with tight-shut lips. "We never had any, and we can get along just as well as we have!"

That was the way all over the farm. Not a single up-to-date machine, not a cow that could be called first-class, not an improved tool for doing farm work anywhere. Talk about such things and see where the "dandies" would come out!

And there are more such farmers than you and I have any idea of. The utilitarian has a fast hold upon almost all our farmers, especially those of the old school. You must argue hard and long to convince some men that it will be for their interests to invest in new farm equipments. The old things are "good enough." Common hens, common cows, the old-fashioned tools, are all right.

On a train one day I met a little old lady that had caught the spirit of our little friend that wanted the dandy rooster. She told me, with many a twinkle in her eye, that she had lately sold a pair of chicks to a man down in the city of Washington for fifty dollars. She had sold a good many pairs at the same rate. She attended all the big poultry shows, and was thinking and working all the time for better things in her chosen line. Her husband and the boys did the farm work and she looked after the hens.

Now do you doubt that the first five dollars that went for a good hen or for a sitting of fancy eggs seemed like pulling teeth to them all on that farm? Quite likely some one—and from experience I think I might be safe in saying that it was the head of the house himself—said, "You will just throw your money away, wife! Five dollars for a rooster! It is nothing but a waste! Better save the money and get you a new dress!"

So hard is it to break away and make a start toward higher and better things! But the result—ah, that is where the satisfaction comes in! It is a great thing to watch the new stock and fowls and crops grow up into beauty and profit. And every single step of advancement that is made is a spur to still greater things. The man who sees that the five big dollars put into the pure-bred rooster has brought back a hundred or more is ever afterward ready to open his pocketbook freely to pay for other improved stock or tools. The hardest thing of all is once to get the ice broken.

A fine thing about this is that the man who makes a break away from old methods and gets new stock, better tools or finer crops of any kind will not long be without company. If one boy sees that his little neighbor has a "dandy" rooster, how long will it be before he wants one, too? And he will have it, no doubt about that! All such enterprises are catching. We do not like to be behind the procession. We know we can do the thing our neighbor is doing, and do it better than he can, too! That is what sets the world to booming.

Take a man that has been satisfied to float along in the old, slipshod way, and you may be pretty sure his fellows all through the neighborhood are poor farmers. Nothing has happened to shake the community out of its lethargy. But let a live man come in and begin to fix things up, and in a few years there will be a new neighborhood there. New barns, better homes, trimmer fences, better crops, everything will show the impulse of the one man's enterprise. The "dandy" rooster will have grown into a whole flock.

It is a great thing to strike out for the "dandy" in any line. That is what makes the world move.

EDGAR L. VINCENT.

We believe the advertising section of FARM AND FIRESIDE is one of the most valuable and instructive features of the paper, because the advertisers are carefully selected, and they bring the markets of the world and all the latest inventions to your door. This would not be true if we accepted fake or doubtful advertising. Such advertising is invariably refused.

Farming is an occupation which requires time and study to understand. It cannot be acquired all at once. If you read FARM AND FIRESIDE carefully you will find hints that will help you to overcome the difficulties you encounter.

PREPARING FOR THE WINTER CAMPAIGN IN DAIRYING

It is no longer a question that winter dairying is profitable for the man who understands and is able to supply the requirements of the cow that is milking; but if for any reason he cannot produce summer conditions or those approaching near thereto, he had better let Nature take her course and let the cow freshen in the spring.

If one gives a little thought to the matter there need be no question as to what is necessary for the cow to produce a paying milk flow, for what is needed is what naturally comes with warm weather—namely, a comfortable temperature and appetizing, succulent, nutritious food.

The first provision, then, must be such shelter as will keep the cow in comfort; though ever so simple, it must keep her warm and dry. To let her lie on the cold frozen ground and to expect her to find protection from the biting winter winds in the lee of some building is not providing ideal conditions for her welfare. If the owner does not do better than this, he may feed her of the very best and yet he will be obliged to admit that winter dairying does not pay.

Then as to feed. In summer grass and other herbage invite the cow to eat her fill, and so palatable is such a diet that she literally stuffs herself, and yet her appetite calls for more.

Taking the cue from this, the man who expects dairying to be a profitable business in zero weather must furnish a variety of succulent food in the shape of pumpkins, roots of different kinds, silage, etc., besides various kinds of dry forage and grain, and limit the cow's feed only by what she can hold, for that alone will be the measure of what she consumes, if her appetite is tempted by the variety and palatability of her rations.

In addition to shelter from the cold and plenty of food, the cow must have light and pure air, so this will necessitate windows in the stables and some system of ventilation which will let the foul air out and the pure air in. She is, besides, obliged to have a little exercise and room sufficient so she can move freely from side to side when confined to her stall, and not be compelled to lie or stand in an unnatural position. Comfort means increased milk production, and the cow with a highly wrought nervous organization such as belongs to the dairy animals must chafe under the restraint imposed by stanchions, and with strained muscles and aching joints she cannot do her best.

Last, but not least, the water supply must be plentiful and of the right temperature. No cow is going to drink more than is absolutely necessary to take the keen edge off her thirst if the water is at the freezing point. It does not cost much of time nor money to prevent the necessity of giving her water right out of the tank or pond.

"It is early to talk of these things now," granted, but "in times of peace prepare for war," and now, while the weather is good, is the season to plan and work, so that at the appointed time all shall be in readiness to supply the wants of the cow, and she in turn will do her part in convincing her owner that winter dairying does pay.—Colman's Rural World.

CLIPPING BACK CLOVER

Where the clovers have been sown with spring grains as a nurse crop, and the crop removed, and the clover begins to blossom, it will be a great advantage to the future crop if the mower is set as high as possible and the crop clipped back. There will no doubt be fields in our territory where the growth has been so luxuriant, either from favorable weather or a thin stand of the nurse crop, that a crop of reasonably good clover hay can be harvested from the spring sowing; and where this can be harvested soon enough to allow the second crop to cover the ground, there is no special objection to this method, particularly if the clover hay is needed, as it will no doubt be this year in much of our territory.

Where the growth is not so rank, but still rank enough to produce blossoms, we unhesitatingly advise clipping it back and at the same time destroying the annual weeds, which will probably be in bloom about the time the clover blossoms. Whether the field is weedy or not, we would advise clipping it back, unless it can be pastured in such a reasonable way as to serve the same purpose without interfering seriously with the fall growth.

Why clip back? If clover is allowed to produce seed it will more or less weaken the vitality of the plant, for seed production makes the heaviest draft on the vitality of any plant. The plant is always weakest just after it has produced seed. If the clover is prevented from seed production its energy or force is held in reserve, it throws out stools, pushes them forward vigorously, and a thin stand may thus be made moderately thick, and a moderately thick stand may be brought nearly to a state of perfection.

We have been very much surprised at

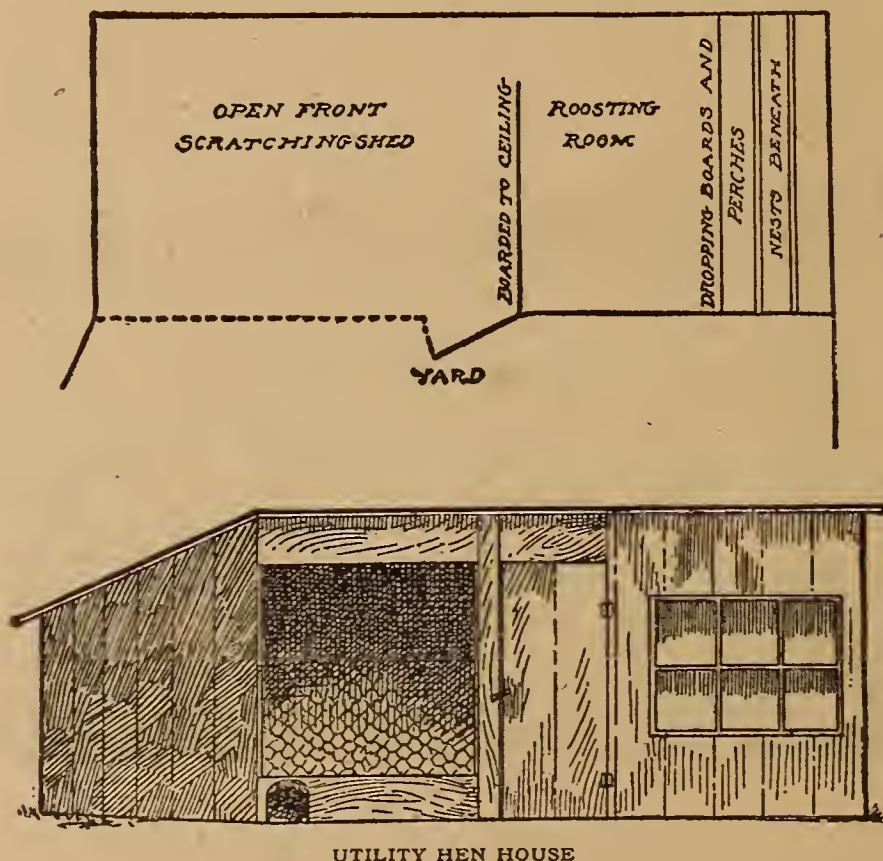
Review of the Farm Press

the results of clipping back in our own meadows. We do not need to say that while the clover is being clipped back the fall weeds are being killed, and the result will be a much better stand of grass and a cleaner meadow next year.

There are places where so much growth will be made before the farmer gets to this that a considerable swath will be mowed. Where this occurs it should be raked up, whether any use is made of it or not; for a heavy cutting of clover left lying on the ground will inevitably injure the stand. In this, as in everything else, the farmer must use gumption.—Wallace's Farmer.

UTILITY HEN HOUSES

Recently we promised to publish another lot of plans of low-cost poultry houses, and in fulfillment of this promise will just say that elaborate buildings, or particular shapes or styles of such buildings, are by no means necessary for best success in poultry keeping. Many farmers make a good thing out of their hens in egg production, yet have no other place for them than a spare room in an old barn, or some old shanty put up of the roughest and cheapest kind of lumber, or in a lot of large boxes—for instance, piano boxes, cheaply put together to make reasonably comfortable quarters for the birds. The style of houses here shown (taken from "Reliable Poultry Journal") has been recommended at earlier farmers' institutes by Prof. J. E. Rice, the poultry expert of Cornell University Experiment Station. The house may be built seven feet high in front, about five feet high in the rear, and of a size proportionate to the number of fowls it is to accommodate.



UTILITY HEN HOUSE

For a flock of twenty-five hens of the larger breeds, or thirty hens of the smaller ones, we would have the roosting room not less than ten by ten feet, and the scratching shed somewhat larger. Make the sides tight, and, if possible, double, with paper or sawdust between, and the roof also tight and snug.—The Practical Farmer.

PROGRESS AND VALUE OF TREE PLANTING

Reports from all parts of the country show that the past season has undoubtedly been characterized by a more extensive planting of forest trees than any previous year in the history of the United States. The work is progressing very favorably in every state in the Union. It has been most extensive in California, in the great Middle West, and in the New England states. But even in the South, where planting has been more or less limited because of existing natural forests, the scope of the work has been greatly broadened.

The trees planted have been mainly hardwoods. Several large nurseries, however, report greater sales of conifers for forest planting than they have ever made before. In the Middle West catalpa, black locust, Osage orange and Russian mulberry were the favorite trees; in the North and Northeast preference was given to white pine, chestnut, larch and

spruce; in the South the native conifers held the lead; and in California, where the immense annual planting area has been increased to at least five times its former size, eucalyptus had practically a monopoly.

A few figures readily show the value of forest planting from a commercial standpoint. In Pawnee County, Nebraska, a sixteen-year-old catalpa plantation gave a net return of \$152.17 an acre at the time the plantation was cut. This meant an annual profit of \$6.24 an acre. A ten-year-old plantation of the same species in Kansas showed a net value of \$197.55 an acre. Still another plantation in Nebraska gave a net income of \$170.50 an acre when fourteen years old, which amounts to an annual income of \$8.69 an acre. Several equally striking cases could be cited throughout the entire Middle West, and it is known that where the catalpa will succeed no other tree will pay so well. Good soil and moisture conditions are, however, essential for success with this tree.

Osage orange has been known to produce as high as 2,640 first-class posts and 2,272 second-class posts an acre, and it is well understood that no posts are better than those of Osage orange. Land producing such a forest as this could hardly be put to a better use, since timber is the easiest of all crops to raise, and from now on will never go begging for a market.

Red cedar in plantations twenty-five years old has reached a value of \$200.54 an acre. European larch used for fence posts or telephone posts reaches an average value of two hundred to three hundred dollars. White pine plantations forty years old have exceeded a value of three hundred dollars an acre, and it is known that the eucalyptus, even when

planting may be had free of charge upon application to the Forest Service, United States Department of Agriculture, Washington, D. C. The studies on which they were based were made especially for the benefit of farmers and other landowners, and to prevent the waste of thousands of dollars annually lost by planting the wrong forest trees or by improper care of plantations.

From the manner in which our natural timber has been cut it is clear that each region will have to be made as nearly self-supporting in timber growth as possible. The lesson of the past is that the right forest trees grown in the right way will bring a big profit.—United States Forest Service, Press Bulletin No. 156.

SELECTION OF SPECIMENS OF FRUIT FOR EXHIBITION

In inspecting or judging horticultural exhibits at county fairs and various horticultural meetings one is often struck by the grave mistakes made by so many exhibitors in selecting specimens for the exhibition table. This is not surprising when we think the matter over and realize how few growers have the least conception of the ideals of the average fruit judge. It is often the case that one exhibitor carries off the majority of the prizes simply because he understands how to select his entries. It is true that different judges may differ in their ideals and judge on a different scale of points, but they do not differ greatly.

Suppose we take a score card which will, I believe, suit the majority of judges. Even granting that the rating of points may not suit all, it will, at least, emphasize the important points to be observed in choosing specimens. The following is a score card prepared by the department of horticulture of the Colorado Agricultural College, and is used in all class work in judging commercial apples:

Form	15 points
Size	20 points
Color	25 points
Quality	15 points
Freedom from blemishes.....	25 points

Total100 points

In form the specimen should be a true type of the variety. If it is a Winesap, it should be conical, not round. If a Jonathan, it should have more the appearance of a short cylinder. Specimens of the same variety from the same tree will vary much, and the exhibitor should choose the prevailing type.

All who have looked over the display tables after the judges have passed have no doubt observed that the large fruit does not always take the premium. Do not select overgrown specimens. A Winesap the size of a large Ben Davis stands no chance in competition with an average-sized specimen. The individual fruits should be uniform in size. Nothing looks worse to a good fruit judge than a plate of four average-sized apples topped out with an overgrown specimen.

Color is one of the most attractive characters of the exhibition fruit. The color should be clear, bright and characteristic of the variety. As a rule the fruit cannot be too well colored, but in exceptional cases it may be possible to overdo the matter in selecting for color. The plate of fruit should be uniformly colored by all means. Fruit should never be polished to show off the color better. Fruit from which the bloom is removed is really blemished, and the judge is justified in so considering it.

Quality is a character seldom taken into consideration, unless in very close competition. It includes both texture and flavor and should be considered only in judging specimens of the same variety. It is a characteristic which should be given considerable weight in judging fruit of different localities, but hardly necessary to the awarding of satisfactory judgment on local exhibits.

An exhibitor is rarely, if ever, excusable for presenting for the judges' decision a plate of fruit containing specimens that are blemished in any way. To the judge the plate is as good as the poorest specimen only. In the case of fruits normally picked with the stems on, every fruit should have a perfect stem. A plate of fruit with bruises or other injury should never take a premium.

This really gives the points to be observed in choosing specimens of all classes of fruit. With more careful selection and a better understanding between judges and exhibitors there will be fewer disappointments.

One of the best means of acquainting oneself with judging and the selection of exhibits is by carefully looking over the exhibit after the awarding of premiums.—O. B. Whipple in Colorado Agricultural College News Notes.

Do not ever forget that FARM AND FIRESIDE guarantees you fair treatment from any person or firm who advertises in your paper.

HOW TO LAY A CONCRETE WALK

This is the time of the year when many walks are being laid, and it is now well known that the cement walk is the best of all. If properly put down it will last a lifetime; it is smoother and looks better than any other walk, and it requires little or no attention to keep it clean. Considering those advantages, it is certainly the cheapest walk as well, and this is doubly true when it is laid by the landowner and his ordinary hired help, thus saving the expense of an expert. The following exact directions for laying such a walk are given by Mr. Fred R. Crane, head of the Farm Mechanics' Department of the University of Illinois.

If your subsoil is very porous, allowing the water to fall away rapidly, so there is no chance for heaving of the soil during freezing weather, then there is little need for excavation of the earth if the foundation is solid, and there is no organic matter to decay and let the walk settle.

Where the subsoil is a stiff clay, the writer has followed the practise of excavating fourteen or sixteen inches deep, filling with cinders to within four and one half inches of the top of the completed walk, tamping down the cinders to make a firm foundation. Gravel will do if cinders are not available. Two-by-fours are used for the sides of the form, and great care is taken to level them.

A crown is formed by raising the middle of the walk one fourth inch for every foot in width. The medium mixture (one part Portland cement, two and one half parts coarse sand, five parts crushed rock) is used, mixing it thoroughly and wetting it so it will pack well. It is then shoveled into the forms and pounded down, leaving the top one half inch below the top of the forms. The two-by-fours at the sides are now marked every four feet, and the walk cut through the concrete to the cinders, to allow for expansion and contraction in warm and cold weather.

The surface coating is composed of one part cement and two and one half parts of sand, leaving out the crushed rock. This layer is mixed to the consistency of mortar and spread over the concrete in the forms. The surface is struck off by a gage which gives the proper amount of crown. After setting for a few minutes it is rubbed smooth with a trowel. Too much rubbing will separate the cement and sand particles and leave an unsatisfactory appearance.

The surface layer must also be cut at the same points as the concrete layer below. Cover the walk, to protect it from the sun. If it is sprinkled with water from time to time, that will insure an even setting of the materials.

In about three days it will do to bear weight, but it will not get its ultimate strength short of thirty days.—The Farmers' Review.

FATTENING HORSES

In one of the large horse-feeding establishments of the West the following method is practised: The horses are purchased, their teeth are floated and they are all put in the barn and fed gradually, as great care must be taken for a few days to avoid colic. It seems most profitable to feed them grain about five times a day, due to the fact that the stomach of a horse being proportionately smaller than the stomach of a cow, he needs his feed in smaller quantities and oftener. The hay is placed in racks, so that they may have access to it at all times. They are given all the water they will drink twice a day.

The following method is used in feeding the grain: Corn is given at five o'clock in the morning; water at seven; the hay racks filled at nine o'clock, when they are also given oats and bran, the proportion being two thirds bran and one third oats. Then at twelve o'clock they are fed corn again; at three in the afternoon oats and bran, and the hay racks are refilled; at four o'clock they are given a second watering; at six o'clock the last feed of corn is given.

The proportion for each horse when upon full feed is as follows: Corn, from ten to fourteen ears at each feed; oats and bran, about three quarts a feed, making in all from thirty to forty ears of corn and six quarts of oats and bran per horse a day.

The horses are not given any exercise. It seems impossible to give them all sufficient exercise, thus they are not given any from the time they are put in the barn until a few days before they are to be shipped. As a substitute for exercise, in order to keep the blood in good order, thus preventing stock legs, Glauber salts is used. This is found to be quite satisfactory and will in most cases prevent this trouble. It is mixed with the oats and bran, as in this way the horses eat it quite readily. These salts are fed about twice a week. They can be purchased very cheaply from the druggist when bought in considerable quantities. They are not so strong as the Epsom salts and they have a desirable and cooling effect upon the blood. The same firm also feeds oil meal. They claim that it aids greatly in putting

on flesh; also that it gives the skin a soft, mellow touch.

The mangers and feed boxes should be cleaned out twice a day, and the cobs and all other refuse thrown out behind the horses and taken out with the manure. The horses should be given sufficient time to rest their stomachs, and this can be done by giving the first feed at five o'clock in the morning and the last between six and seven at night. Horses fed as described usually make good gains. In some instances horses fed in this manner have made a gain of five and one half pounds a day for a period of fifty to one hundred days. One horse gained five hundred and fifty pounds in one hundred days. In many instances from twelve to twenty horses have made an average daily gain of three and one third pounds a day for a period of ninety days.—Prof. W. J. Kennedy in The National Stockman and Farmer.

THE CARE OF SEED CORN

Seed corn as brought in from the field has a high content of moisture. If, in the attempt to dry it out quickly, artificial heat is used, with little or no attention given to ventilation, the chances are that the germ will start to grow. Artificial heat is dangerous at this stage. The important things are ventilation, a dry atmosphere and a moderate temperature. Corn suspended from a wire in a well-ventilated shed, granary or dwelling-house attic, in such a way that there is free circulation of air around each ear, is very favorably situated. Windows should be closed during nights and rainy days, but open the rest of the time.

If the fall be dry and hard freezing weather does not come until the seed is well dried out, it will go through the winter nicely in such quarters. If the weather be damp and winter sets in early, it should have the benefit of artificial heat. A chamber or attic through which a stove-pipe passes will answer; a furnace room in a dry cellar is very satisfactory. We have found long bushel boxes, about one foot wide, with one fourth inch wire netting for sides and top, very desirable storage for corn which has first been handled as above until it is fairly dry. Such mouse-proof boxes afford much ventilation, and may be stored in a dry furnace room or in a moderately warm attic with safety, as winter sets in.

Experiments have shown that corn which is thoroughly dry will not be injured by any degree of cold. This, while interesting, is not as comforting as it would appear to be, for the reason that some confusion may result in deciding when corn is thoroughly dry; and further, corn once dry does not necessarily mean always dry. If left subject to a moisture-laden atmosphere it will very likely take up enough moisture to render it liable to injury from severe freezing.—Ohio Station, Circular No. 71.

GROWING HOGS IN WESTERN NEBRASKA

Hog growing on variously combined rations of grain and alfalfa pasture or hay has been the subject of numerous tests at the North Platte Experimental Substation. Accounts of eleven experiments are given in Bulletin No. 99 of the Nebraska station, just issued. The bulletin may be had free by applying to the director of the station at Lincoln, Nebraska.

To test the profitability of different qualities of grain fed in connection with alfalfa, corn, shorts, barley and emmer were used. In one case alfalfa pasture was the only feed, in another corn. During each experiment, where not otherwise stated, each lot of pigs was pastured on a five-acre field of alfalfa or given access to alfalfa hay. Duroc Jersey hogs, mostly of high grades, with some registered stock were employed.

Three lots of pastured pigs were fed respectively one half, one and one half and two and one half pounds of corn daily for every hundred pounds of pigs. Those fed the least grain made the largest gain in proportion to the grain consumed, but they gained more slowly, and at the end of the test had a stunted appearance. The daily profit per pig was larger with those fed the next higher grain ration, and largest with those fed the most grain. In another experiment three lots of thirty pigs each were fed respectively one pound, two pounds, and a full ration of grain daily to each one hundred pounds of pigs. The pigs on light grain feed required 230 days to fit for market, and gave a profit on the grain fed of \$179.40. The pigs on medium grain took 221 days and gave \$179.01 profit. Those on full feed were ready for market in 165 days, and gave

\$168.30 profit, showing but a small margin to cover risk, labor, interest and extra alfalfa required in keeping pigs the longer time on the lighter grain feed.

Where one lot of pastured pigs was fed corn, and another three fourths corn and one fourth shorts, the results were in favor of the corn.

Mature hogs, thin in flesh, were pastured two months or more on alfalfa without other feed. They averaged about one half pound of gain a day.

Two lots of weaned brood sows were fed, the one three pounds of corn a day per one hundred pounds of hog together with alfalfa pasture, the other four pounds of corn in a dry lot without alfalfa or other feed. It required nearly forty-three per cent more corn to yield one hundred pounds of gain in the dry lot than in the pasture. To pasture a pig through the season at North Platte costs about fifty cents, valuing alfalfa consumed in the field at \$2.50 a ton.

Twenty-nine shoats, averaging 185 pounds, made for six weeks an average daily gain of 1.59 pounds each on three pounds of corn a day to one hundred pounds of pigs. With corn at thirty-five cents this made a cost, not including the alfalfa consumed, of \$2.36 per hundred pounds of gain. Another lot, averaging one hundred and thirty pounds, was fed a full ration of corn. They gained 1.6 pounds a day each, a cost for gains of \$3.07 per hundred, not including alfalfa, corn being thirty-five cents.

Barley and alfalfa hay gave smaller gains than corn and alfalfa hay. Cut alfalfa hay, fed with either corn or barley, gave cheaper gains, not counting cost of cutting, than loose hay fed with the same grain. Corn and alfalfa gave almost twice the daily profit per pig given by equal weights of emmer or barley under the same conditions. In this test the corn fed brought sixty-five cents a bushel, the emmer thirty-five cents, the barley forty-four cents. Where barley or emmer was fed half and half with corn, the barley fed brought 13.5 cents more and the emmer nine cents more a bushel than when fed alone.

The value of alfalfa in pork production was evident throughout these experiments and others made at the North Platte station. In all cases where the conditions were not made exceptionally unfavorable the results indicated a net profit. With good alfalfa hay to feed, mature hogs can be carried through the winter in fair condition on three pounds a day or less of corn.—Nebraska Station, Bulletin No. 99.

RETAIN THE CHOICE OF YOUNG SOWS

The selection each spring of the choice young sows from the herd, as a reserve for the brood-sow supply, is a necessity if advancement and improvement in quality is the purpose of the breeder. There are in all herds of swine, full blooded or grades, a few sows of superior quality as mothers. It is this motherly instinct that should be cultivated and encouraged in the selection of the brood sows. One good sow that will properly suckle a large litter of pigs and grow them up to the weaning age, is worth several uncertain sows.

It is not always a profitable practise to turn the breeding sows each year into the feeding herd and replace them by younger ones. There are a few sows in each herd that prove themselves superior as mothers. Select these out and keep them in the breeding-sow division until you produce something better from among their produce. It is just as easy and just as profitable to select cows for milk production and motherly instincts as it is to select cows for profitable dairy use.

In breeding any kind of animals, the qualities best suited to their perfect development should be encouraged and improved upon. The sow or mother animal who is a light milker and of poor quality will soon disclose this fact in the condition of her offspring. As the lack of motherly instincts and constitutional qualities appear in these animals consign them to the feeding herds, where they may be prepared for the slaughter. It is folly to keep an unprofitable animal on the farm, or one barely able to pay its board, when money earners may be had by simply exercising a little care and judgment in selection.

The cultivation of these qualities in the mother hog is a present-day feature of cultivation with many of our best purebred breeders, and so impressively have they implanted their efforts in this respect that the raising of large litters is not a great effort or strain on the sow. A little attention directed to the hereditary tendencies of these mother animals will soon be made visible in the herd.—Twentieth Century Farmer.

THE SELECTION OF A BOAR

The matter of selecting a boar does not receive as much attention as its importance would warrant. We find many farmers satisfied with using their neighbor's boar without taking into consideration the fact that he may not be adapted to their use. In this connection we would say that many farmers who keep from ten to fifteen sows find it convenient to own a boar in partnership with their nearest neighbor. The expense of buying and keeping him is thus reduced, and usually a better animal can be secured.

Every swine breeder is familiar with the saying "the boar is half the herd," as he exercises an influence over all of the offspring, while each sow can influence only her own pigs. While this is true to a great extent, the breeder must not expect the boar to do everything, satisfying himself with scrub sows, or the herd will surely deteriorate, no matter how well the boar may be bred. However, a superior boar used upon inferior sows will always raise the standard of the herd, while the use of an inferior boar upon superior sows will tend to lower the standard. It is therefore important to have a boar that is better than the sows.

Look for strong male characteristics. See that the head and shoulders are developed in proportion to the age. For breed, the size should be medium to large; the body presenting a low parallelogram in shape, showing strength and vigor in every part. The belly line should be straight from brisket to flank, and good chest development indicates a strong constitution. The boar should not be selected hit-or-miss fashion, but chosen with a view to correcting the weak points of the sows. If the sows have coarse bones and poor skin, the boar should have fine bones and good skin. It should be remembered that the boar influences the general appearance of his pigs, while the vital organs usually resemble those of the sow. The visible organs of reproduction should be well and evenly developed.

Short, strong legs with straight pasterns are necessary in order to carry the body well. Boars showing the slightest signs of weak pasterns or any other leg defect should not be used. This is an important point especially as the boar grows older and heavier.—The Farmer.

BREAKING IN THE HEIFERS

What a task it usually is to break a heifer to stand for milking, and how little adapted to the work many men are. As a matter of fact, the process is merely one of education, and much patience should be manifested toward the young animal. Instead of kicks and blows she should be the recipient of kind words and treatment of a nature calculated to soothe instead of excite her. All is new and strange, even the baby calf itself, which instinctively she loves, and protects, if need be, with life itself.

If she is treated rightly she will soon come to know her caretaker as a friend who will do her no harm, but what can be expected if she is subjected to such treatment as heifers sometimes are? The wise herdsman knows how important it is to gain the confidence of his heifers, and they are not afraid of being hurt. Indeed, they should have been accustomed to being handled, even fondled, for the entire period of their lives. Then when they arrive at maturity they have no fear and are much more tractable than would otherwise be the case.

A heifer which has been a pet does not always develop into a number one cow, but she can usually be depended upon not to raise a rumpus when she drops her first calf and has to be milked.

Much of the future value of the cow depends upon the first year of lactation. By proper care and treatment an ordinary heifer may be developed into an excellent cow, while a really good animal may be seriously injured by pursuing an opposite course.

Since few heifers are fully developed physically at birth of their first calf, it seems needless to urge that they be well nourished if it is expected they will yield a good flow of milk and at the same time complete their growth.

I believe it to be no exaggeration to state that very few dairymen are sufficiently generous in apportioning the ration to the young cow, and hundreds of inferior animals to-day attest to this fact.

There can be nothing gained in the long run by scrimping the feed of any young animal, a carcass loaded with fat may not be desirable, but such food stuffs as oats and bran, with smaller quantities of more fat-forming grains fed intelligently will bring only good results with any dairy animal.—E. E. R. in Hoard's Dairyman.

Over-burdened with his ever-enlarging field of usefulness, Secretary Wilson secured the ready approval of President Roosevelt for the creation of a board of food and drug inspection. The board consists of Dr. H. W. Wiley, Dr. F. L. Dunlap (Assistant Chemist) and Geo. R. McCabe, Attorney-at-law for the Department of Agriculture.

Gardening

BY T. GREINER

ABOUT LIMA BEANS

IT WAS news to me that the vines of Lima beans in northern Europe, where they do not ripen the seed, are esteemed as forage for cattle, and I do not credit the story told in a French journal, of many cases of the fatal poisoning of cattle in Belgium (or any where else) by unripe lima beans. At least I am not scared by the assertion that under certain conditions of culture lima beans will develop prussic acid in dangerous quantities.

Green limas, in fact, are one of our most esteemed vegetables, and I shall continue to grow them and have them on the table freely and frequently, either plain or with sweet corn as succotash. The lima, in short, is one of the real blessings of our garden, satisfactory alike for home use and for sale. They are best, of course, before they approach the ripening stage, and we always try to gather them just as soon as they have reached nearly their full size or largest bulk, but before they begin to harden. At that stage they are a treat indeed.

Some of the lower best-developed and best-filled pods are left for seed, and promptly gathered and stored, although we sometimes find pods with good seeds even in spring, after they have hung on the trellises all winter.

THE STRAWBERRY BED

The abnormal weather conditions last spring resulted in crowding the strawberry season into a shorter period than I have ever seen it before. Michel's Early was not many days ahead in time of ripening of the ordinary standard kinds, like Wilson, Crescent, or even Brandywine, our favorite, nor was the usually very tardy Gandy very many days later. We had a belated picking of the Brandywine about the same time that our neighbor picked his last Gandies.

This neighbor's great success for several years with the Gandy has induced me to plant more largely of this than of any other, not even the Brandywine excepted. My neighbor, of course, sets a new patch every spring, and he always keeps the old patch over for a second year's fruiting.

Of all berries, the Gandy is best adapted for fruiting for two years, and the patch will usually give more fruit the second year than the first. My neighbor mows the vines after first fruiting, rakes or burns off the rubbish, and then gives the patch a very thorough harrowing with a smoothing harrow (spike tooth) until the whole surface looks as bare as a floor. This disposes of the weeds, and the strawberry plants soon come through again, making a full matted row.

A TIMELY WARNING

"It takes more brains and harder study to handle ten acres of asparagus than to become a fair lawyer or doctor. Go easy! Grow into the business and master it as you go!" That is what my friend editor Collingwood says to those who are tempted by the stories of large profits in growing asparagus, and seriously considering the proposition to set out five, ten, twenty and even fifty acres of asparagus. There are many gardeners who grow one or more acres of asparagus, and make it pay as much as any crop they grow, and perhaps better; yet few are so located that they could advantageously grow ten or twenty acres. The man who knows what an acre of asparagus means—in work, in marketing, etc.—will seldom think of increasing his plantation to twenty or fifty acres.

This is also true of many other vegetables. Many who can handle a quarter acre of Prizetaker or Gibraltar onions, and sell the crop for several hundred dollars in retail, leaving them a good profit, would be simply swamped and make a miserable financial failure if they would attempt to grow five acres. Go easy!

PREPARING LAND FOR ONIONS

A reader in Lawrence County, Tennessee, who has a piece of new sandy loam free from stones and rubbish, just sowed with cow peas, desires to get this land in shape for onions, relying on the cow peas and commercial fertilizers for manure. He asks how chicken manure and Tennessee floats would do for fertilizer, and also whether it would be necessary to add bone meal and to apply lime.

For all I know to the contrary, this land may be in good shape for producing a big onion crop even without much additional manuring besides cow peas and

"floats." I would plow the peas under in the fall, and perhaps it might be a good plan to scatter a half ton of floats over the vines before plowing them under. During the decay of the vegetable matter, through the acid and ferments developed thereby, a portion of the insoluble phosphoric acid will be made available.

I would also try to add potash to the application, either in the shape of wood ashes or of muriate of potash. A ton or two of wood ashes will not hurt the land, or several hundred pounds of muriate may be used. I would apply either of these as a top dressing in the fall or spring. If the land has been plowed in the fall, I would again plow it, or else work it with deep-cutting disk harrows and thoroughly pulverize and smooth the surface, just before planting in early spring. There will be no need of applying bone meal or lime in this case, as the "floats" and ashes both supply it.

PLANTING PEAS IN THE FALL

An Indiana reader proposes to plant peas in the fall, and asks whether they need protection during the winter. My advice is, "Don't." Better wait until spring; and the earlier you can get the land ready for them then, and plant them, the better, especially when you plant the first early smooth sorts, of which I think Alaska is probably most satisfactory.

REPLANTING RHUBARB

A Missouri reader who wants to take up and replant his rhubarb this fall will not go far wrong if he will take up the entire roots, cut them in pieces so that he has at least one good eye on a good piece of root, and replant one of these cuttings in a place not less than four feet apart each way.

I have at times taken up a part of each plant, leaving the other, perhaps larger, portion in the hill, but I believe in the long run it is preferable to make an entirely new plantation in the way suggested, leaving part of the old plantation to yield a crop next spring and summer, to be abandoned or renewed in the fall following.

BLOOM, BUT NO FRUIT

The experience of a lady reader in Xenia, Ohio, is by no means exceptional. She writes: "My cucumber, summer and winter squash vines, etc., have been loaded with bloom for five weeks, but not a cucumber or squash can be found. The blossoms are not fertile."

Two causes may contribute to this result. The soil may be too heavy with nitrogen and short in mineral plant foods, in which case the vegetative growth is correspondingly stimulated at the expense of the sexual development. Or, the fruit may fail to "set" for failure of being properly pollenized. We have this year an unusually small number of insects, such as cucumber beetles, wild bees, bumblebees, etc., and if none of these or other insects visit the blossoms you will look in vain for cucumbers, squashes, melons, etc.

If the cause is the lack of mineral plant foods in the soil, you will find the remedy in the application of wood ashes or other forms of potash and of superphosphate. If there is a lack of insects, then hand pollination will be the proper means of forcing fruit setting. With a camel's hair brush gather up some pollen in the male blossoms and then brush it over the receptive pistil of the newly opened fruit (female) blossom. With plenty of bees in the neighborhood, however, there is not likely to be any trouble from lack of proper pollenization of these fruits.

POTATO ONIONS

A subscriber in Ohio says he raises the potato onion, a multiplier of brown skin. The large bulbs make a number of small onions good for bunching in early spring, and the small bulbs make large onions. He has planted them in the fall for two seasons. The large bulbs came out all right, but the small ones were a failure. Mulching with manure last winter did not mend matters.

The potato onion is a valuable onion in many localities in the South, and there usually planted in the fall for making dry onions for Northern markets. I can do much better here with some of our standard varieties, like Yellow Danvers and Yellow Globe, and especially the Prizetaker and Gibraltar, the two first named grown directly from seed sown in spring in open ground, the two last named started from seed sown under glass in January or February and transplanted to open ground in April or May. But if the potato onion does well for any reader, it is his privilege to grow it and plant it at such times as he finds will give best results. Plant the large bulbs in fall or spring, and the small ones as early in spring as circumstances will permit.

Fruit Growing

BY SAMUEL B. GREEN

GRAPE DISEASES—APPLE APHIS—PLUM APHIS—ANTS ON CHERRY TREES

F. J. Q., Lowrey, Iowa—In regard to specimens of grape which you sent, the worst trouble is that they are affected with brown rot, which causes the fruit to decay and dry up. One of the leaves which you sent is affected with mildew, which is probably a form of the same disease, and which causes brownish patches. The leaves with the holes in them I think are injured by some flea beetle or some other insect, but this injury does not seem to be especially severe, and has probably not hurt the grapes very much.

The best treatment for vineyards that are diseased in this way is to spray them with Bordeaux mixture, commencing soon after the grapes are set and continuing until the fruit begins to color. In the case of only a few vines the best treatment is to cover the fruit with paper sacks about the time it sets; but this will not protect the foliage, which on some varieties must be protected by Bordeaux mixture.

There is nothing that you can do at this stage that will protect them from these troubles as the germs of disease have already gained a hold in the fruit. These diseases are the most troublesome with vines growing in some of the shut-in locations, where they do not get a good circulation of air, and remain moist until late in the day. In such places these diseases will often be abundant, while in near-by locations having a good circulation of air they are not troublesome.

The apple leaves which you sent on are evidently the new growth from young, rapid-growing trees. The leaves are curled up on account of the apple leaf aphis, or apple louse, which is a very common source of injury. The best treatment for this is to make a strong tea out of tobacco stems, using it of a dark brown color. With a basin full of this go through the young orchard and dip the ends of the branches of the trees in the tea. A very strong soapuds will often be just as effectual as the tobacco water.

The plum leaves you sent are infested with the plum aphis, or plum-leaf louse. When not very abundant it will yield to the tobacco treatment as recommended for the apple aphis, but where it covers the whole tree, as is sometimes the case, I have found nothing so effectual as smoking the tree with tobacco smoke. To do this to best advantage I cover the tree with a cotton cloth tent, and then make a smudge of damp tobacco stems, and fill the tent about the tree so full of this smoke that one cannot see a hand at arm's length. Care should be taken, in using this smoke, that the fire does not flame up, or it will burn the foliage; if reasonable precautions are taken, excellent results will follow this treatment.

In regard to the injuries done by ants on grapes and cherry trees, as a rule they do not cause serious injury to either of these fruits, and it is more than likely that they are present in order to get the sweet honey dew that is secreted by the leaf lice. If you will watch the ants closely when they are working on a tree infested with leaf aphis, you will see how they stroke the lice with their antennae in order to get them to exude their honey dew, and on this account they are sometimes called the ants' cows. But when the fruit is thoroughly ripened and the juice sweet, ants will damage it. I do not think they make openings, but work only on breaks in the skin of the fruit caused by curculio cracks, disease or other agencies.

STRAWBERRY RUNNERS

Mrs. O. A. H., Roseau, Minnesota—The runners on your strawberry plants which are well rooted may be transplanted this autumn, provided they can be taken up with a nice ball of dirt. As a rule autumn planting is not as successful as spring planting, especially in Minnesota, where occasionally the winters are severe and the ground bad, and I would recommend that you leave your transplanting until spring.

The larger and more vigorous runners which become rooted near the main plant should be left, and it is desirable to have them cover the ground near the old plant, so as to make a continuous row about eighteen inches wide, but not have them nearer than six inches apart each way.

The weak runners which will be scarcely or perhaps not at all rooted by the time cold weather comes should be cut off. The same treatment should also be given to any runners in excess of those needed for stocking the row in good shape, but of course you can leave them thick in places for transplanting next spring.

LIME AND SULPHUR MIXTURE AS A FUNGICIDE

The increased activity of San Jose scale during the past two years has resulted in more attention being paid to the spraying of orchards. This has been the means of reducing very perceptibly many of the troubles to which orchards are subject. Our examinations of orchards during the past summer convince us that this mixture is one of the most reliable fungicides for the suppression of certain fungous diseases. It is especially applicable for the prevention of peach-leaf curl, also for the rot (Monilia) that so often destroys plums and peaches. Our observations also show that it is successful in controlling to some extent canker, pear blight, black knot and other diseases.

We have frequently advocated early spring spraying of trees, before the leaves appear, with a solution of copper sulphate at the rate of one pound to fifty gallons of water, as we maintain that many of the common blights are more successfully prevented by this spraying than by later ones. This latter treatment has been successful in checking the black knot of the plum.—From the Report of Massachusetts Experiment Station for 1906.

APPLE TREES NOT BEARING

J. H. D., Kimball, Minnesota—I do not know why some trees are so tardy in coming into bearing, and why some varieties in some situations bear early and well and under different conditions they fail to produce profitable crops. We simply know this is a fact, but do not know the reasons for it. It seems that, as a rule, where trees are growing thriftily they are less liable to form fruit buds than where they grow rather slowly or make only a moderate growth. The only way to avoid these difficulties is to plant varieties that are generally successful, and the kinds recommended by the Minnesota Horticultural Society are best adapted for planting in your section, as they are varieties of general adaptation.

This general rule is true of not only Minnesota, but of the whole country. There are many varieties of only local adaptation which, as a rule, are a failure. A good example of this latter kind is the Newtown Pippin, which is grown at its best, perhaps, in Albemarle County, Virginia, and is fairly successful in a few other locations, but is generally a failure, while varieties such as Oldenburg, Baldwin and Ben Davis are generally successful.

FORCING PLANT GROWTH WITH DRUGS

Some really amazing results from drug-ging plants are described by Mr. Clarke Nuttall in the English "World's Work." It has been found, first by Doctor Johannsen, of Copenhagen, that anesthetics applied to plants accelerated their development. A lilac put under ether or chloroform, and then placed under suitable conditions of growth, will far more quickly gain its full maturity of beauty than if it had not been drugged. The moment the plants are released from the anesthetics they begin to put forth buds, and development goes on apace. Lilacs prefer ether, lilies of the valley chloroform. There is said to be a universal consensus of opinion that this anesthetic process is the most advantageous for the purpose of increasing and quickening growth and for producing finer and more luxuriant flowering.

The theory offered in explanation by Doctor Johannsen is that when a bud is formed in summer in preparation for the following year it passes through three states of rest—initial, until September; complete, until the end of October; final, until the end of January. Now, he argues, when a plant is anesthetized, these periods of rest are, so to say, condensed, and thus deepened in quality while shortened in time. It is as though a certain quantity of repose were essential, and it does not matter if it be taken in a concentrated form during a short space of time, or in a more diluted form over a longer interval. But the greater the intensification of the resting state, the more rapid and easy is the recovery.

If this theory is borne out by the facts, the inquiry presents itself, "How far might a similar process be applied to the human being?" Can any drug be found to concentrate our eight hours of sleep into one, and make the remaining twenty-three hours of the day correspondingly intense?

Did you ever notice that the miser does not usually make as much of a financial success as the progressive man who is not afraid to spend money to gain more? Do not be afraid to buy good tools and use the best methods of farming. It means greater wealth for you, without counting the saving of labor and the satisfaction of doing good work in the best way.

Poultry Raising

BY P. H. JACOBS

INJURIOUS SUBSTANCES

NATURE prompts the fowls to avoid injurious substances and to protect themselves, but they do not always follow their natural instincts. It is not best to attempt to compel the fowls to utilize substances that may not prove beneficial. The practise of mixing sand or other gritty material with the food is not always the best method, as it compels the fowls or chicks to swallow substances which should not be used except by selection on the part of the birds.

Gritty material should be sharp, and is used by the fowls only as required by them. As soon as it becomes fine it is useless, and passes out of the gizzard. When sand is mixed with the food it serves as a foreign substance, which interferes with digestion. Coarse, sharp and hard grit is the kind preferred by fowls. There are occasions when the farmer or poultryman should assist the birds, but in the matter of grit he should supply the materials and allow the fowls to select that which they prefer rather than give such material in the food.

USE THE BONES

Fowls usually prefer bones that are broken or cut (not ground) into small pieces, with meat adhering to them, either raw or cooked, preferring such to the commercial bone that has the odor of ammonia or decaying matter. Dry bones, whether broken or ground, will be consumed, however, but not so readily as those that are fresh. The dry bones may be steamed, in order to render them brittle, or placed in the oven and burned, when they can then be easily ground or pounded into small pieces. Of course, when subjected to heat they lose more or

"Strictly fresh" eggs are in a separate class, and the supply is always short.

It should be the object of farmers to give more consideration to poultry, for with the best markets in the world right at their doors they should make hens pay. The farmers in some sections do not receive as high prices for eggs as those nearer the markets, often the eggs from a distance not being considered as "strictly fresh," yet the demand seems always to exist. They may have cheaper food in certain localities, and may be compelled to accept lower prices because of not having nearer markets, but it does not destroy the fact that the farmers do not produce enough eggs for the demand. There is room for more poultry farms, and there is money in poultry for farmers who will make poultry and eggs their specialty.

GRIT FOR POULTRY

A farmer's wife asks me what I think about feeding coarse sand to young chicks, mixing it with their food, so as to compel them to eat it. She says some of her neighbors do this, and seem to think that their chicks would not thrive if they did not get this sand.

The proof of the pudding is in the eating thereof. If the neighbors' chicks thrive better than others, then there is some advantage in compelling them to eat sand. But she says they lose a larger proportion than she does. Then it would seem that there is no advantage in feeding sand. In such matters as these all one has to do is keep a close tab on the results. Feeding sand to young chicks, compelling them to eat it with their food, is in a class with a whole lot of other fads, such as the morning mash, the open-front house, etc., all of which create quite a stir for a time, then die away. What



A FLOCK OF LIGHT BRAHMAS

This flock consists of about thirty hens, in a large yard. They are kept solely producing eggs for market, and are bred true to standard requirements. The male is to the right of the center post, the yards being used for growing grapes as well as for poultry. The white plumage, black tails, dark hackles, compact bodies and upright carriage, all contribute to render them attractive. The illustration demonstrates, however, that the wire fencing should be made more serviceable with windbreaks, as a protection in winter, as showed by the compact arbor-vitae hedge in the distance.

less of their nitrogenous matter, such as meat or gelatin.

With a bone cutter all kinds of fresh bones may be cut and prepared for fowls. A bone cutter is an excellent thing to have around the farm, and will more than pay for itself before the winter is over.

THE SUPPLY OF POULTRY AND EGGS

Owing to the prosperous condition of all classes, more money is circulated, and a larger proportion consequently diverted to the purchase of poultry and eggs by consumers, than would occur if the markets were not brisk and business good.

It is gratifying to notice that, despite the increase in the numbers of those who have engaged in the poultry business, the supply falls short of the demand, which leaves room for larger production. The greater the attempt to fill the demand, the wider seems the difference between supply and demand, as was demonstrated by the high prices recently prevailing in some markets. There may be times when large quantities are shipped to market and remain there for a few days, which somewhat depresses prices, yet the market not only reverts to its former position, but the excess sent forward causes a corresponding reaction, which enhances prices.

Eggs are used for so many purposes that it is important for the supply to be constant. Panics cannot easily affect prices of eggs, as would be the case with other articles. The farmer who does not make egg production a part of his farm operations is losing one of the best opportunities on the farm, and the egg business can be conducted without the aid of middlemen, if preferred. There is never any depression in the fresh-egg business; therefore, it is one of the best and safest in which the farmer can be engaged.

poultry requires above all things is clean, wholesome food, pure water to drink, and some sort of grit.

In the matter of supplying chicks and fowls with grit I have tried about everything I could hear of, and years ago decided that gravel is as good grit as one can supply both chicks and fowls. Whether grit assists in grinding the food or merely aids in keeping the interstices of the gizzard open and in keeping it clean is a question. So far as I could learn by experimenting, smooth grit, such as small stones, are fully as efficient as any sort of rough, broken stone. One has no advantage over the other so far as I could learn.

With regard to oyster shell my experiments proved conclusively that they are indispensable to the securing of a high laying record. When a hen runs short of shell-making material she ceases to lay until the supply in her system is renewed. I have found oyster shell the best material for renewing this supply. In fact, my hens would never have reached the egg record they did but for the constant supply of oyster shell they received. I have also found it valuable for young chicks. I have hatched and raised thousands of chickens, and made their requirements a careful study for years, and by so doing cut out a big lot of expense, and also a lot of work, or drudgery, it might be termed, that was entirely unnecessary.

FRED GRUNDY.

ROUP AND CHOLERA CURES

The difficulty of diagnosing diseases causes many mistakes in treatment. There are always those who have "sure cures" for such a disease as roup, yet it is contagious, and may be in the flock for months, as it is considered a form of consumption or scrofula. The surroundings

have much to do with the effect of cures on different diseases, and often the only remedy is dry quarters and nourishing food.

Roup remains for a long time, but cholera comes and goes quickly. The latter is indicated by great prostration, intense thirst, nervousness, and greenish watery droppings, which are very profuse. A teaspoonful of liquid carbolic acid in half a gallon of drinking water sometimes gives good results.

Indigestion is frequently mistaken for cholera. Cholera kills in a short time and is contagious; indigestion may continue for weeks.

It may be of some advantage to attempt to save a flock which has been attacked by cholera, but roup, with its foul odor, discharges at the nostrils, and general debility, is a very disgusting disease, and entails tedious work in its treatment.

BETTER FLOCKS

This is an excellent time to buy pure-bred fowls, as they can be had at a lower cost than in the spring. The best hens of the flock now on hand should be retained, and with the aid of pure breeds the farmer can greatly improve his fowls. He should weed out the unprofitable fowls, thus saving expense during the winter by feeding only such hens as may be capable of giving a profit. Close observation of the flock will soon enable one to know what to do in the matter of selection, and if a record has been kept the selecting will be much simplified.

Before the pure breeds were so well known, barn-yard fowls could be bought for twelve or fifteen cents apiece, and it would not then pay to devote too much time to their breeding and rearing. But things have changed since then. Improvement and progress in the cultivation of all kinds of domestic live stock necessitates more careful selection and greater care and better management to produce and keep up the quality of the stock, for on the quality most generally depends its value.

USING CELLARS

Before utilizing a cellar for poultry one should consider the location. The fowls make considerable filth, and if the cellar is under a barn or dwelling it must be kept clean at all times. All kinds of cellars will not be suitable. Light and ventilation are factors to be considered. A cellar may be used for winter quarters if it is light and dry. It would probably be cheaper to have a separate poultry house instead of utilizing the cellar, as the cellar can be devoted to more useful purposes.

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Live Stock and Dairy

PORK PRODUCTION IN THE EAST

Discussing this subject, Prof. Harry Hayward, director of Delaware Agricultural Experiment Station, in a talk before the recent annual meeting of the Pennsylvania Live Stock Breeder's Association said, in part:

That pork production is an important agricultural industry is shown by the fact that in the year 1900 the average private family ate a little over half a ton of meat, nearly half of which was pork. In other words, the total amount of pork consumed in the United States was nearly equal to the total consumption of beef, veal and mutton.

These facts are explained by another fact—pigs for various reasons are more profitable animals to raise than beef steers or sheep, and on this account always have occupied and probably always will occupy a prominent place in American agriculture.

In the first place, pigs are more prolific than any other class of farm animals; they mature more quickly, and can therefore be turned off sooner than any other live stock save poultry. Again, the pig produces its meat upon considerably less feed than any other meat-producing animal, much of which feed could not be used advantageously in any other way. A pound of pork can be produced upon half the amount of feed that is required to produce a pound of beef, and two thirds as much as it requires to make a pound of mutton. Another point in favor of the pig is that the percentage of dressed weight is higher in pork than in either beef or mutton.

There is probably no branch of animal husbandry that can be taken up with as small capital as raising pigs. They can be kept in comparatively large numbers in small enclosures, or they will do well on pasture, which furnishes part of their feed, and they are subject to but few diseases. As population increases the demand for pork will also increase. It is one of our most palatable and nourishing meats.

Some of the middle Western states raise from three to ten times as many hogs as any Eastern state, and as the Eastern states can grow about every kind of crop grown in the more Western states, it seems reasonable that the Eastern farmer can materially increase his production of pork in competition with the West, and have the further considerable advantage of quite near-by markets.

Practical experience shows that one good man can handle quite a large herd of hogs if he will properly arrange his pasturing and feeding systems. Some pasture seems essential to success. This calls for a very small area of tillable ground per head, which in course of time should become very rich and productive from the droppings of the animals and the growing of legumes for feed.

The buildings should consist of a storehouse or granary, to store at least a carload of feed, a corn crib and a root cellar. Besides these there should be half a dozen or more small farrowing pens. These buildings could be arranged in relation to the feed and pasture lots, so they could be easily reached with a car running on an overhead track.

On account of the reasonable price for which pure-bred sow pigs can be bought, and as a pure-bred male is essential to success in any case, it seems reasonable to advise the use of pure-bred pigs rather than grades in general pork production. The best breed for one to choose must remain largely a matter of personal choice.

In feeding the brood sow we must supply the nutrients necessary for the sow and the litter she is carrying. During the growing season the ration can be supplied at a minimum expense by light feeding in connection with pasturage. In winter cut clover or alfalfa hay mixed with the grain, together with a sugar beet or two or mangels, will make a good substitute for the pasture.

In order to have the pigs ready for an early market in the fall they should be farrowed in March. If the sow's next litter comes the first of September, the pigs will be in good shape to market the following April, when prices are nearly always good.

The sow must be a good feeder and a good milker, as she must give her pigs their best start toward good development. The feeder must be a pig man, skilful enough to secure good returns from cheap feeds.

Henry has demonstrated that it requires no more food to produce one hundred pounds gain in the pigs when fed to the sow and pigs before weaning than when fed to the pigs alone after weaning. When skim milk is available for feed-

ing the young pigs, it should be mixed with enough grain to make a fairly thick slop. If skim milk is not to be had, a mixture of two parts finely ground oats, one part wheat bran and one part white middlings, with five to ten per cent of tankage, allowed to soak between feeds is a satisfactory ration. The successful grower and feeder of swine, as in feeding any other class of animals, will keep in close touch with the feed market and buy those feeds that will give him the most value for the least money.

Pigs should be so fed that they will gain from one half to one pound a day from the time they are three weeks old until they are marketed. It will be found impossible to make this gain on pasture alone, hence grains must be fed with the pasture.

The earliest pasture that can be had is rye, and although its food value may not be great, it will serve to tone up the system and induce better appetite and faster growth. Hairy vetch, red clover, oats and peas, rape, gem sorghum, soy beans and cow peas may follow each other.

W. F. MCSPARRAN.

BUYING COWS

Too little attention is given to the importance of buying cows for the dairy. Farmers base their judgment too much upon the appearance of the prospective cow, and in doing this they often get ones that are less profitable than those that do not present so neat and trim an appearance or those that give a less quantity of milk.

When buying additional cows for the dairy it is advisable to first get samples of milk from all those offered for sale. This will be some trouble, but it is profitable trouble in the end. When the sample is taken, learn the quantity of milk the cow gives, and pay little attention to the looks of the cow. Test each cow's milk for butter fat, and let those results influence the decision to buy or not to buy. If several samples are tested, it will be a simple matter to pick out the most profitable cows—the only accurate method and the most satisfactory.

Of course other things must be taken into consideration. Allowance must be made for the age of the cow, and also for the length of time she has been giving milk. While a young cow may not show up as well as an older one, yet she may prove an exceptionally good investment. It must be remembered that a young cow improves in value, while an older one decreases. One should have a certain standard, and in buying dairy cows should see that each one comes up to this standard. The only way he can do this is to secure samples from the prospective cows offered for sale, and have their milk tested for butter fat. Making allowance for the age and condition of the cow and number of months that she gives milk in the season, the farmer should buy the cows that yield the largest amount of butter fat.

LYNFORD J. HAYNES.

GRINDING FEED FOR HOGS

There have been many experiments conducted at the different experiment stations, comparing the value of ground feed for hogs over the whole grain. Some experiments show large gains from grinding feed, while others seem to indicate that it does not pay to grind feed for hogs. Usually a hog will chew corn better than he will such small grains as wheat and buckwheat.

Then there is a wide difference in different hogs as to the chewing of their feed. Usually young hogs will chew grain better than old and large hogs. If the hogs have their feed scattered on the ground or on a floor, so that they will have to pick it up grain by grain, they will chew it much better than they will when eating whole grain from a trough.

An examination of the voidings will show whether the hogs are chewing their grain well or not. If a considerable number of grains are voided whole, it is evident that the feed would better be ground; but if the grains are well chewed, it is doubtful whether it would pay to go to the trouble of grinding grain for hogs.

A. J. LEGG.

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Today over 98% of the world's creameries use DE LAVAL separators. This fact means much to every cow owner. Without the separator creamery operation would be almost impossible. No matter whether the creamery is buying whole milk or cream its success rests upon the centrifugal cream separator. Those who are buying whole milk skim it at the factory with DE LAVAL Power machines—those who are buying cream advise their patrons to purchase DE LAVAL Hand machines. The biggest and most successful creamery company in the world is buying cream from more than 40,000 patrons to whom it has sold DE LAVAL Hand machines, after many years of experience with all kinds of separators. Had the DE LAVAL not been the best and by far the most profitable separator for anyone owning two or more cows, this great creamery would never have taken the responsibility of placing them with its patrons. And this is true in hundreds of other instances, for creameries can be found in every part of the world having from a few hundred to many thousands DE LAVAL patrons. Wouldn't it pay you to find out why experienced creamerymen prefer the DE LAVAL to other separators? You may learn the reason by asking for a DE LAVAL catalog, or better still a DE LAVAL machine—to examine and try out at your own home free of all expense. Don't wait, but write us today.

THE DE LAVAL SEPARATOR CO.

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A RELIABLE FARM POWER MAKES AND SAVES MONEY

THESE are days of large operations on the farm. Some sort of power has become a necessity.

There is almost an endless array of uses to which the power can be put. Every season, in fact almost every day in the year, the farmer will have use for it.

And when the power is once on the farm, he soon learns, if he did not know it before, that he can do things easier, more quickly and more economically than he ever did before.

But the farm power must be simple and dependable and as nearly self-operating as possible because the farmer is not expected to be an expert machinist.

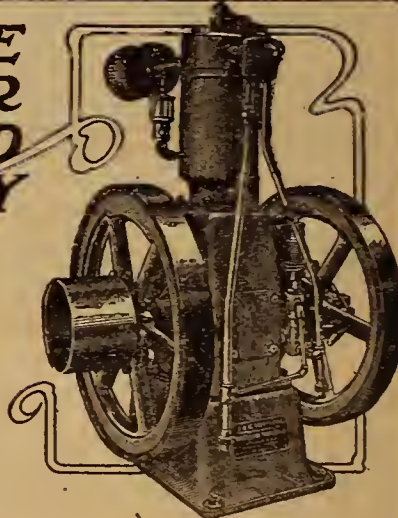
I. H. C. Gasoline Engines

are made to meet these requirements in the fullest manner. Every engine carries with it the highest assurance a farmer can have of satisfactory service and right working.

Whether you purchase the engine here shown or one of our various other styles and sizes of engines, you know you are getting an engine that is perfectly adapted to the use intended.

You know that the engine is scientifically built on correct mechanical principles.

INTERNATIONAL HARVESTER COMPANY OF AMERICA,
(Incorporated)
Chicago, U. S. A.



You know that it is the product of workmen of highest skill operating with best procurable materials.

You know that your engine has behind it the reputation and guarantee of a great manufacturing institution whose sole business is the making of machines for farm use.

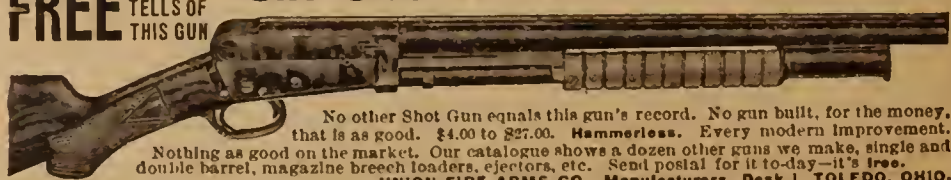
"Simplicity and Efficiency" is our motto in building these farm engines. Every one must do its part toward sustaining the reputation of the I. H. C. works.

I. H. C. engines are made—Vertical, in 2 and 3-H. P. Horizontal, both Stationary and Portable, in 4, 6, 8, 10, 12, 15 and 20-H. P.

Call on the International local agent and take the matter up with him or write for catalog and colored hanger illustrating and describing these engines.

FREE BOOK TELLS OF THIS GUN

SIX SHOTS IN FOUR SECONDS.



No other Shot Gun equals this gun's record. No gun built, for the money, that is as good. \$4.00 to \$27.00. Hammerless. Every modern improvement. Nothing as good on the market. Our catalogue shows a dozen other guns we make, single and double barrel, magazine breech loaders, ejectors, etc. Send postal for it to-day—it's free.

UNION FIRE ARMS CO., Manufacturers, Desk 1, TOLEDO, OHIO.

DON'T BUY GASOLINE ENGINES

alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-THIRD YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN,"

a two-cylinder gasoline, kerosene or

oil engine, with greater durability. Costs

EAR-CORN CUTTER

A common practise with farmers in feeding corn to cattle is to pick the small ears. After feeding for some time, especially if fed for market, the cattle often refuse to eat. This is caused by feeding too large pieces, which makes the mouth sore.

By the use of a device like the one shown in the accompanying cut no trouble of this kind will result, as the corn can be cut in small pieces. We have used a device of this kind for a number of years and never had any cattle refuse to eat the cut corn.

The knife can be made from an old buggy spring, and pivoted to one end of a bench. A board with a slot cut in it is nailed to the other end, which serves as a guide for the handle end of the knife. The slot is sawed out just wide enough to let the knife move freely.

G. G. KIMMEL.

THE IDEAL DAIRY COW

The majority of farmers and dairymen are afraid to pay high prices for high-class cows; they seem to hold the idea that a cow is a cow, and that her value is to be judged according to the prevailing prices for which the average run of cows are selling, regardless of what her intrinsic value may be for use in his dairy.

He thinks that her value to him depends more on what he can afford to pay for her than on what she will earn him when put to the test in his dairy. It has been proven a long time ago that if there are any kind of cows that a dairyman cannot afford to keep, they are the low-producing kind. The cow is worth no more nor no less than what she is capable of producing for her owner.

At the present prices of butter and dairy products the cow that will produce five hundred pounds of butter in a year is worth from two to three hundred dollars more than the cow that will make only two hundred pounds. These figures are not overdrawn, and every practical dairyman will substantiate my claim. Every dairyman should study them, grade his herd by them, and aim to solve the problem that he is meeting face to face.

Some may ask, "What is the best thing for me to do to put my herd on a paying basis?" Every dairyman and farmer can better afford to pay four hundred dollars for a cow that will produce from four hundred to five hundred pounds of butter in a year than to pay fifteen or twenty dollars for a cow that will produce only from one hundred and twenty-five to two hundred pounds during the same length of time. This ought to make every dairyman hesitate before he pays forty to fifty dollars for cows that produce less than three hundred pounds of butter a year, as many are doing at present.

The various state statistics prove to us that the average dairyman is doing business at a loss. The testing of milk and weighing it at milking time is so simple that an ordinary farmer, with a short time practising, can tell in a few minutes just what his cows are doing, and every one that he finds is not producing his set standard every month, and is not worth her feed and keeping, should go to the first buyer that comes his way.

The ideal dairy cow must commence with the calf and some simple rules must be followed if a success is made in growing the calves and developing them into first-class cows.

The first rule is to keep the calf pens in a good, clean and sanitary condition. The young calves are very susceptible to sudden changes in the temperature, and require protection from all weather extremes, and also from the ravages of flies during the hot summer and early fall months. They need pure air and sunshine.

Sunshine not only disinfects a stable, but it is also a great stimulator and invigorator to all young animals. They must have a dry nest, and all of the pails and feeding utensils must be kept sweet and clean.

They need whole milk for the first three weeks, and then it can be gradually changed to skim milk, and some kind of mill feed supplemented to replace the fat that is removed by skimming the milk. One part ground oats sifted and one part oil meal makes an excellent ration for young calves. Have small racks in the pens, so that they may have a constant supply of tender clover, alfalfa or some other good hay; also feed a little dry bran, and there will be little trouble from derangements, unless something is entirely wrong with their care.

A real good calf raiser is a valuable man in any herd, for to be successful it requires unceasing vigilance and patience in looking after the feed and sanitary conditions and developing them in a manner that will build up constitutions capable of meeting the demands of heavy milk production when they are put to the test in the dairy. To all farmers and dairymen who desire to raise an ideal herd of dairy cows no question is of more impor-

tance than selecting and developing their calves in a manner that will increase their efficiency for use in the dairy.

My experience in handling heifers from the time they are taken from the skim-milk diet until they are old enough to breed has led me to believe that ground oats is the best feed to ensure the development of the organs of maternity in a heifer; and if all heifers were fed this grain there would be less trouble on account of shy or non breeders.

Heifers should not be required to take upon themselves the burdens of maternity until they have reached a sufficient age and development. The man who breeds his heifers to drop their first calves from the age of twenty-five to thirty months is on safer ground than the man who will not wait for that maturity.

We cannot raise all ideal cows. Some farmers have the mistaken idea that if their cows are from a certain strain or



EAR-CORN CUTTER

breed they are all right and cannot be otherwise. It must be kept in mind that men of good families often go astray. It is the same with cows and other animals. You may not know which cow goes wrong unless you use the scales and Babcock test; but if you use these you will find it easy to tell which cows are bringing in the money, and no up-to-date dairyman depends on guesswork in these days.

Your ideal cow will require an ideal stall well bedded with good straw, an ideal ration to eat, and an ideal dairyman to milk her. It would be folly to place an ideal cow in any but an ideal condition. There are plenty of scrubs for men who afford scrub accommodations for their cattle.

How frequently we see very promising young animals pass from some well-known breeder into the hands of some misguided victim of his teaching, and for lack of proper care pass into oblivion. Is it not a fact that an animal worth keeping is worthy of good care?

The ideal cow should not be undersize or not too coarse; should have a fine head, fine horns, long, slim neck, large barrel, a straight back, large, long,

crooked veins, large udder extending well forward and running well up behind; should be broad on the rump and wedge-shaped in form, with rich, mellow skin; should have kind and expressive eyes, and uniform build throughout. Then give her ideal care and ideal feed and you will soon build up an ideal business that will pay ideal profits every month in the year.

W. MILTON KELLY,

HOG CHOLERA

Those who had cholera among their hogs last fall should keep the swine clean and on ground not already affected. We lost a good many fall pigs last year, so this season we are keeping the young hogs in a field at the back end of the farm. It is best to take no chances; it is easier to prevent a start of the infection than to stamp it out. Fall-farrowed pigs are especially liable to die of cholera.

When new corn comes, feed it with discretion; acute cases of indigestion due to overfeeding of immature corn are conducive of cholera. Keep soft coal, charcoal and ashes before the hogs all the time. Farmers are very liable to take careless chances with hog cholera; steer clear of it by using care in advance.

GEO. P. WILLIAMS.

HORSE BREEDING

Of all horse breeding on the farm, none pays better than the production of good Shires. They are ready money at any age, providing they are of good class, but second and third raters are for the most part unprofitable. Neither can be bred with profit, save where brood mares may earn their living, with a bit to spare, which they may do just as well as not if there is the work to be done.

It is because on most farms brood mares are too woefully deficient that disappointment results. Unsound, undersized, ill-conditioned, too old and under the mark in general appearance are common faults, and many a brood mare possesses the lot of defects. Let no man reckon on breeding with profit from such stock, for he is more likely to propagate the nondescript order, too plentiful already. Most lamenesses are freely conveyed from parents to offsprings. The fault of undersize must not be reckoned to be gotten over by using a great prancing stallion. Poor, overworked mares are not fit to breed from. They have likely been worked out of what little good shape they ever possessed. Old mares have bred stock that has figured well in the show yard, but very rarely.

A dam to breed fashionable stock should have good appearance, stout bone in the legs, feather and action, for such qualities are wanted in the progeny. Care in all these things makes breeding profitable, and now that mating time is approaching I offer this word of advice to readers.

W. R. GILBERT.

Live Stock and Dairy



When
You
Go to
Bed at
Night



you needn't worry about the condition of your poultry, stock or crops if they are housed under

REX FLINTKOTE ROOFING

Costs less than shingles, protects better than tin or slate. Made of wool felt rendered absolutely proof against water by our saturating materials, and so resistant against fire that you can place a live coal on its surface without danger.

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and our valuable booklet on roofing. Make the fire test, try its strength, note its pliability; and if you go to your dealer's, be sure you are given the "Look for the Boy" trade-mark kind.

J. A. & W. BIRD & CO.
75 India St., Boston, Mass.
Agents everywhere

Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book 8-C free. ABSORBINE, JR., for mankind, \$1.00. Removes Soft Bunches, Cures Varicose Veins, Varicocoele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Allays Pain. Mfd. only by W. F. YOUNG, P. O. F., 23 Monmouth St., Springfield, Mass.

Layers of Fat

Turning corn into pork is paying business, provided the transformation is made with the smallest percentage of waste and loss of time. Now a hog lays on flesh rapidly, so rapidly, in fact, that a few months suffice to double the original weight of a common shote.

To increase weight three or four times, however, in the same period that some feeders require for changing a 100 lb. pig to a 200 lb. hog, is to gain the big profits in the business. This can be done, but digestion must be kept at its maximum performance from start to finish—something impossible to do if nature alone is depended on to correct the ills sure to follow heavy feeding.

The preparation which long experience has proved the best assistant Nature can have in maintaining perfect animal digestion is

DR HESS STOCK FOOD

It begins its good work right at the foundation by strengthening the hogs' digestion and capacity for assimilation. It is the prescription of Dr. Hess (M.D., D.V.S.) and, besides digestive tonics, contains iron for the blood and cleansing nitrates to expel dead matter from the system. Dr. Hess Stock Food increases appetite in all animals receiving it. A steer or cow fed on Dr. Hess Stock Food will consume large quantities of roughage and extract more nutriment from the whole ration than will an animal fed without it. This is conclusively proved by the analysis of manures from differently fed cattle.

Professors Winslow, Quitman and Finley Dun endorse the ingredients in Dr. Hess Stock Food and thousands of successful feeders testify as to its merits. Sold on a written guarantee.

100 lbs. \$5.00; 25 lb. pail \$1.60 { Except in Canada and extreme West and South. Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound and this paper is back of the guarantee. Free from the 1st to the 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.
Also Manufacturers of Dr. Hess Poultry Pan-a-cure and Instant Louse Killer.
INSTANT LOUSE KILLER KILLS LICE.



SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a renewal. If all our subscribers will do this a great deal of trouble will be avoided.



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THE CROWELL PUBLISHING COMPANY

SPRINGFIELD, OHIO

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ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

The square deal is what you want. Now, FARM AND FIRESIDE ensures that all its advertisers shall give you a square deal in all transactions.

Experiments show that the old way of doing things is often not the best way. FARM AND FIRESIDE endeavors to give you the new and better way when there is one to be found.

During the winter months you should look over your stock of machinery and see if you will need anything new, then watch the advertising columns for the newest and best.

We hope you are glad to see FARM AND FIRESIDE every time it comes to your home. Every time you write to any of the advertisers, say that you saw it in FARM AND FIRESIDE.

Genuinely prosperous farmers have nothing to do with fake advertisers. We can conscientiously say that FARM AND FIRESIDE will not give its readers anything but honest advertising.

The world expects greater things of you to-day than it did yesterday. You can prepare to meet this expectation by careful reading of some good farm paper such as FARM AND FIRESIDE.

The successful farmer gets the largest returns possible from the money he expends. We are sure that no farm paper gives larger benefits to the farmer for the money expended than does FARM AND FIRESIDE.

Do you want to be a happy farmer? If so, take time to read one or two good farm papers, such as FARM AND FIRESIDE. Study the advertising columns, too, for you may find something there that you need to make your work lighter.

With each issue FARM AND FIRESIDE brings you a wealth of information. The advertisers spend large sums of money to put before you the machinery which will aid you in your farm operations. The contributors endeavor to give you information along all possible lines.

It is always wise to try to cut down expenses, but no one should go to extremes. Of course, each one must determine for himself just where to draw the line. No farmer can afford to do without a good farm paper, in which he likes to read the advertising columns as well as the articles on farm topics. Try FARM AND FIRESIDE.

Confidence is what you buy when you get something that is perfectly reliable. It is confidence in what you have purchased—confidence that it is honestly made and truthfully sold; confidence in the reputation of the people who made it. Reliable goods and commodities have always been imitated, and the imitations are always inferior. It is these imitations that the clerk tries to force upon you when you ask him for a certain thing and he tells you that something else is "just as good" or "cheaper." Don't accept a substitute! You were probably induced to buy what you wanted because personal experience had taught you that it was the best, or perhaps you were convinced that it was best by an advertisement. Don't you think if a man spends hundreds, or perhaps thousands, of dollars to tell you and others about his goods, that he must have a great deal of faith in their ability to "make good?" He wouldn't spend his money if he didn't believe they would sell, and they wouldn't sell if they were not honestly made. That is why you can trust the goods advertised in FARM AND FIRESIDE. In the first place, if they weren't honestly made and truthfully sold we wouldn't advertise them in FARM AND FIRESIDE, and in the second place you will have confidence in them. Remember, we have so much confidence in everything FARM AND FIRESIDE advertises that we guarantee every advertisement! That is worth a lot to you!

AGRICULTURE IN THE PUBLIC SCHOOLS

"A farmer who has a one-hundred-thousand-dollar farm near a good town," recently said Professor Holden, "told me the other day he was afraid to send his only son to high school in town, because the teachers there were likely to lead the boy away from the farm and try to persuade him that he ought to be doing something better than farming."

This is a clear expression of a sentiment quite common throughout the country. In fact, every farm boy who has passed through a high school can truthfully testify that nearly all the influences there tended to draw him away from the farm. Back of that, he can also testify that there was little or nothing in the common country school he attended to keep him on the farm. And the fault is not so much in the teachers as in the text books and courses of study.

A better day is coming. One of the most important moves of the times is the movement for having the elements of agriculture taught in the rural public schools and for the establishment of more high schools of agriculture. Agriculture now demands more trained brains in the business than ever before.

GOOD ROADS

Good roads are a necessity to every farmer. They are even more—they are an asset, a part of his capital stock. The economy with which crops can be handled and marketed depends very largely upon the condition of the highways about the farm and the market. Good roads not only make marketing and caring for crops cheaper, but they make them easier, too. Every farmer who has any interest in his business ought to personally see that the roads about his farm are kept in proper condition. Not only should he do this because it means money in his pocket in the long run, but also because it is his duty to those who use the highways. There is hardly one of our readers but that has traveled some time in his life over roads so poor that it was a trial rather than a pleasure to travel. Such roads are a public nuisance rather than a public benefit, and there is practically no excuse for them. We of to-day think we are far more advanced than our ancestors were in every department of human activity. Two centuries ago brings back thoughts of semicivilization almost, and yet the old Romans of two thousand years ago built roads that are in perfect condition to-day. Perhaps we haven't the time or the money that they had to spend on this work, but we can at least look carefully after our highways and see that they are kept in good traveling condition. Don't let the roads around your farm get rough, full of stones or of mud holes. Keep them up well. Make them the kind of roads you like to travel—the kind that is a pleasure to travel.

WALL STREET AND THE PRESIDENT

The Eastern daily newspapers have considerable to say about a business depression, and publish comparative statements of the prices of stocks and bonds in Wall Street to show a slump in values.

Now it is quite clear that the depression is in Wall Street, and not in the real business of the country. In a recent interview, with characteristic directness, Speaker Cannon says:

"The great masses are not talking politics now. They are busy. Their ambition is to see that nothing is done to make them idle. This country is very prosperous. There is the old scare of uneasiness in Wall Street, but Wall Street should look back into the country where the factories are going, where the farmers are harvesting their crops and sending them to market, where well-paid labor is putting forth enormous production for our domestic markets and for the markets of the world."

With large crops and prices above the average of recent past years the farmers' aggregate income this year will be very large, possibly as large as in the best year

of agricultural production. Upon this solid foundation prosperity will continue for the entire business of the country.

However, depression in Wall Street is real, but it may properly be attributed to the "blues" arising from fear on the part of stock gamblers and corporation manipulators that their swindling games in high finance will be completely blocked by enforcement of federal and state laws, and that they will find their occupation gone. Their enmity against President Roosevelt on account of his firm stand for the enforcement of law against the greatest law-breakers in the country has degenerated into a vicious phobia. Symptoms of their trouble are in daily evidence.

In his recent Plymouth Rock speech President Roosevelt said—and he means every word of it:

"Once for all, let me say that as far as I am concerned, and for the eighteen months of my presidency that remain, there will be no change in the policy we have steadily pursued, or let up in the efforts to secure the honest observance of the law, for I regard this contest as one to determine who shall rule this free country, the people through their governmental agents, or a few ruthless, domineering men, whose wealth makes them peculiarly formidable because they hide behind the breastwork of corporate organization. I wish there to be no mistake on this point; it is idle to ask me not to prosecute criminals, rich or poor, but I desire no less emphatically to have it understood that we have sanctioned and will sanction no action of a vindictive type, and above all no action which shall inflict great and unmerited suffering upon innocent stockholders and upon the public as a whole. Our aim is to try to do something effective; our purpose is to stamp out the evil; we shall seek to find the most effective device for this purpose; and we shall then use it whether the device can be found in existing law or must be supplied by legislation. Moreover, when we thus take action against the wealth which works iniquity, we are acting in the interest of every man of property who acts decently and fairly by his fellows; and we are strengthening the hands of those who purpose fearlessly to defend property against all unjust attacks. No individual, no corporation, obeying the law, has anything to fear from this administration."

WHY IS INTEREST HIGH?

In all the important money markets of the world the prevailing rate of interest is from one to two per cent more per annum than it was five years ago. After citing important cases of recent loans that show strikingly the advance in the rates of interest, Mr. George Iles, in the September "Review of Reviews", discusses the causes as follows:

"What are the causes of this world-wide rise in the rate of interest? Let us glance at a few of them. Capital, like everything else, goes up in the market with an increase of demand, and such an increase of demand now accompanies a vast augmentation of liquid capital. In the United States, for example:

"National bank loans on December 15, 1897, were \$2,082,000,000.

"National bank loans on May 20, 1907, were \$4,631,000,000.

THE RAILROADS THE CHIEF BORROWERS

"These loans, for the most part, were extended to manufacturers and merchants; they testify to a huge expansion of business within the past decade. In other fields also, there has been of late years, and especially since 1902, an extraordinary cultivation of fields in which investors may reap a goodly profit, with the result that the demand for loans has far outsped supply. Keeping to the United States, we note that of late years the chief borrowers have been railroad companies. If we ask what they are doing with their new funds, we will see clearly why they are so ready to pay a steadily advancing rate of interest. For the first six months of this year the new issues of bonds and shares in Wall Street were \$971,000,000, of which \$833,000,000 were by railroad

companies. And the new resources thus sought were to continue tasks of improvement and growth well under way last year.

"In 1906 there were built in the United States 243,670 freight and passenger cars, twice as many as in 1899. This vast increase in equipment was in response to the severe pressure of new business; and notwithstanding this immense addition to rolling stock, the cry of congestion still goes up from all sections of the country. Railroad equipment, while thus increased in amount, is being bettered in quality. If we compare an average freight car of 1899 with its successor of last year, we will note that the new car is larger and stronger than the old one. Many new cars are of steel and carry twice as much as a common wooden car. In locomotive building it is the same story. Many new engines have compound cylinders and are more costly than engines of simple cylinders. They effect a saving in fuel of about one fourth, and so yield a handsome return on the extra price.

"But our railroads since 1902 have been laying out capital for much more than new locomotives and cars; they have been straightening old lines, improving their grades, and replacing sharp with sweeping curves—all with intent to lower the cost of working. They have also built thousands of miles of extensions and feeders, usually modern in construction. In some noteworthy cases a railroad is effecting a radical improvement involving a stupendous outlay. The Pennsylvania Company, for example, is expending in round numbers \$100,000,000 in taking its lines from Jersey City to Long Island. First comes the tunnel under the Hudson River, then the tunnel beneath New York City, with its vast station on Seventh Avenue; third, the tunnel below the East River, with its enormous yards in Long Island City, for the making up of metropolitan trains. This immense expenditure promises an ample profit after five and one half per cent has been paid for the invested capital. Two years ago leading trunk lines could borrow on short-term notes at four and one half per cent. To-day they must pay from one to one and a half per cent more. From January 1 to June 30, 1907, their loans at these rates were \$346,273,000. Here is the key to the question we are considering. A modern engineer can replace old structures and equipment with new, supersede ferry boats with tunnels, and effect so great a saving in operation and maintenance as to bestow a profit on a loan paying from one third to one half more than the terms usual five years ago.

"In gainful renewals by railroads the most striking item of all is the rail itself, as to-day rolled higher and heavier than of old, of better shape, and therefore much less yielding as its burdens pass. Says Mr. Plimmon H. Dudley, the leader in this branch of engineering:

"A steel rail weighing eighty pounds to the yard, as compared with a rail weighing sixty-five pounds, is seventy per cent stiffer, while but twenty-three per cent heavier. This added stiffness reduces track undulations, permitting heavier and quicker trains, and decreasing the needed motive power. At the same time there is a lowering of cost in maintaining both the permanent way and the rolling stock. When the Boston & Albany Railroad replaced seventy-two-pound rails with ninety-five-pound rails it saved no less than \$800,000 a year as the result. In such a case the chief economy is in diminishing the required motive power. When one-hundred-pound rails take the place of sixty-five-pound rails on a level track, this saving is about one half. What does the change cost? Including reballasting and new ties, about \$10,000 a mile, from which may be subtracted \$3,500 for the old rails, usable in yards and sidings, so that about \$6,500 a mile is the net outlay demanded."

"Suppose that for interest, wear and tear we debit this \$6,500 with fifteen per cent a year, or \$975. This is a mere trifle to pay for an economy in motive power which in the most favorable circumstances of a level track may amount to fifty per cent. Safety, too, is increased."

The Farmer's Daughter

BY T. B. ZIM

Sing loud and long for the farmer's lass,
Who is not afraid of the dew on the grass,
Who can milk the cows, and care for the
hens
Or carry swill to the pigs in their pens;
That can drive the team, or lead the colts,
And knows the difference twixt nuts and
bolts;
Who can ride the reaper, the hay rake or
mower,
And knows the name of every wild flower;
Who can handle the hand rake beside the
load,
And has no fear of mouse or toad;
Who throws off her sunbonnet, looks up to
the sky
With joy in her heart and a light in her eye;
With her plump little hand, brown as those
of a man,
And has no care if the sun does tan,
Who can make a pudding, a pie or a cake
Just as easy as she handles her rake,
She loves all Nature, from mole hill to
mountain,
The pond, the spring, the water of fountain;
The farm dog trails her with love in his eyes,
The house cat purrs for her and tries to
look wise;
In fact, we all love her, and you can bet,
If I wanted a wife, she is the sort I would
get.

Another Great American Monument

BY MANTON MARLOWE

"CAPE COD FOLKS," as they were once made famous in a book with that title, were joyful on the twentieth day of last August, a day ever to be remembered in the history of the "bare, rounded arm of the land" we call Cape Cod. Provincetown, the quaint little town at the extreme end of the cape, was the Mecca of all "Cape Codders" and of thousands of others on this day, when the corner stone of the newest and one of the most interesting monuments in our American history was laid. This was the corner stone of the monument to be erected commemorating the fact that it was at Provincetown that the Pilgrims first landed "on the wild New England shore." It is true enough that they made their first home in Plymouth, but the "Mayflower" lay at anchor in what is now the harbor of Provincetown, and the Pilgrims walked the sandy shores of Cape Cod before they went on to Plymouth, and a number of events of the first importance transpired while the "Mayflower" was lying in the harbor of Provincetown.

The people of Provincetown and of this part of Cape Cod have long felt that there should be a monument in Provincetown to commemorate the events connected with the landing of the Pilgrims on Cape Cod, and some years ago the Cape Cod Pilgrim Association was formed for the purpose of securing funds for a monument of this kind to be placed on High Pole Hill, a sandy elevation about in the center of the quaint little town. A monument costing about fifty thousand dollars was at first planned, and then the association waxed still more ambitious, and decided that nothing short of a monument that would cost one hundred thousand dollars would do. The national government gave forty thousand dollars. The state of Massachusetts was induced to appropriate twenty-five thousand dollars for the fund, and Provincetown voted five thousand. Subscriptions ranging from one to one thousand dollars were received, until more than ninety thousand of the required sum had been paid, and it is certain that the entire sum will have been raised by the time the monument is dedicated.

The laying of the corner stone on the afternoon of the twentieth of August was one of the greatest events in the history of the old town. President Roosevelt and Mrs. Roosevelt were there, and so was Governor Guild of Massachusetts. Hon. James Bryce, the ambassador from Great Britain, made one of the addresses. Henry Cabot Lodge, an orator with few equals in Massachusetts, was on the program, and there was a long list of speakers of world-wide distinction. The corner stone was laid by the Grand Lodge of Masons of Massachusetts. There were hymns and odes written especially for the occasion. William Eliot Griffis, who has written so much about the Pilgrim and the Puritan, wrote the following hymn sung at the laying of the corner stone:

Forth from their mother-land outcast,
Our fathers fled to find a home;
Long dwelt they guests, in conscience free,
Within a state without a throne.

Thou wast their King, their Judge, their
Law,
Their Guiding Star across the deep;
Here on this strand they bent the knee
And vowed thy covenant to keep.

They reared a beacon for our faith,
And we would follow them, as they
Marched with the Captain of their souls,
On service sweet in Freedom's way.

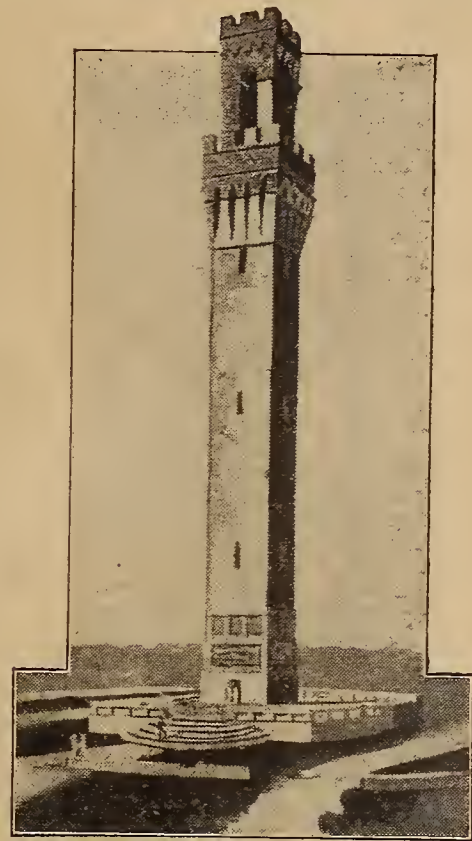
Spirit of Truth, lead us their sons,
Let light e'er break forth from thy word,
Our hearts incline, with grace inspire
Our souls to dare and do, O Lord!

The address of President Roosevelt was, of course, the great event of the oc-



casation, and was heard by an audience that filled the little old town to overflowing. It was expected that the President would touch upon issues of national and present-day importance in addition to anything he might say more in spirit with the occasion. His tribute to the Pilgrims was very eloquent as he asked the American people to remember and imitate their virtues and to forget their failings. We must all agree with the President when he said:

"We have gained some things that the Puritan had not—we of this generation,



PILGRIMS' MEMORIAL
Monument 250 Feet High, the Corner Stone for
Which Was Recently Laid at Provincetown, Massachusetts

we of the twentieth century, here in this great republic; but we are also in danger of losing certain things which the Puritan had and which we can by no manner of means afford to lose. We have gained a joy of living which he had not, and which it is a good thing for every people to have and develop. Let us see to it that we do not lose what is more important still; that we do not lose the Puritan's iron sense of duty, his unbending, unflinching will to do the right as it was given him to see the right."

The monument to rise on High Pole Hill in Provincetown will be two hundred and fifty feet high, and can be seen by all vessels on their road to Boston. It is expected that it will be completed in two years, and it may be another President of the United States will fare to old Provincetown to speak at the dedication of the monument, which will have a significance unlike that of any other monument in the United States or indeed in the whole world.

Utilizing Waste Products

ACCORDING to officials of the Internal Revenue Bureau at Washington, there are signs of great awakening of interest in the manufacture of denatured alcohol. Letters are pouring into the department from farmers and persons of small means asking for information about the amended law, the revised regulations, the methods of manufacture, and the like.

Congress last winter amended the law so as to make it feasible for farmers and persons with little capital to manufacture denatured alcohol. Until the law was amended it was not practicable for any but large plants to engage in the manufacture. The new regulations that have been prepared by the Internal Revenue Bureau are liberal, and are calculated to encourage the manufacture of denatured alcohol at small plants. The officials say that, judging by the number of inquiries they are getting, many small plants will be established.

The impression is strong through the country that denatured alcohol can be made profitably from waste products. The internal revenue officials say that, while this is true in theory, the practical value of waste products for this purpose has yet to be demonstrated. It is not yet a fully tested commercial proposition. In Germany nearly all denatured alcohol is manufactured from sugar beets and potatoes.

At present most of the denatured alcohol produced in this country is made in the Peoria internal revenue district by the big distilling companies there. Until lately the impression among revenue officials has been that the making of alcohol by individual farmers would be attempted but little, but they admit that so many inquiries are coming in now by reason of the promulgation of more liberal regulations that they may have to revise their opinions. A prominent official expressed the belief that a good deal would be done by the farmers in the manufacture of denatured alcohol through co-operative methods of handling the materials and product.

Our Sea Strength on the Pacific

BY EARLY spring of next year the United States will have gathered off the coast of California the greatest fleet of American battleships that has ever graced the waters of the Pacific, and in addition the largest number of high-powered fighting craft ever assembled in any waters of the world. In addition to the battleships which constituted the original program, the armored cruisers now on the Asiatic station are to be called to the Pacific station, where they will be joined by the "Tennessee" and "Washington," two of the most powerful armored cruisers ever built. These vessels have just returned from European waters.

After being overhauled at Boston and New York respectively, these cruisers will start ahead of the battleships for the Pacific coast. Upon their arrival they will find the "California" and "South Dakota," the two armored cruisers built on that coast, ready to join them, also the armored cruisers "Maryland," "West Virginia," "Colorado" and "Pennsylvania," late of the Asiatic Station, and they are four of the crack vessels of the new navy.

In addition to the great battleships that will be taken around the Cape of Good Hope, there are three now on the Pacific coast—the "Wisconsin," "Oregon" and "Nebraska," the last named having just gone into commission. Admiral Robley D. Evans will command the great fleet.

The first squadron will be under Rear-Admiral Dayton. The second will be under command of Rear-Admiral William T. Swinburne, and will consist of two divisions of protected cruisers. Both these squadrons will be in the American coast waters of the Pacific, while the third squadron, in command of Rear-Admiral Joseph N. Hemphill, will remain in Asiatic waters, with Manila as its headquarters.

Mail Service That is Slow

WITH the constant improvement in the mail service of the United States, made possible by the general introduction of the rural free delivery system, the mail service of other countries has suffered by comparison, and indeed the contrast has caused many of them to sit up and take notice, and our mail system has become quite an object of study by our foreign visitors.

Writing about mails reminds us of an item in a recent issue of the "Youth's Companion" calling attention to the fact two letters that were deposited at one of the Galapagos Islands in 1905 had just been delivered to their addressed owners. The letters were in a barrel placed on the beach, left there by the crew of the British steamship "Amphion" in the nineties. They were "collected" by a native of Ecuador.

It would be hard to find a lonelier spot for postal service than the Galapagos. Eight hundred miles west of the mainland of Ecuador lie fifteen mountainous, barren islands of volcanic origin. A number of years ago Ecuador supported a penal colony on one of the islands, but the convicts revolted, killed the governor, and escaped. The Galapagos are now uninhabited, and the only traces of former occupation are the pigs, donkeys, cattle and horses left behind by the convicts.

Certain facts in regard to the fauna of the Galapagos make these islands of great interest to scientific investigators. Species of tortoises abound which are unknown to any other part of the world. What is more curious, some species are restricted to certain islands of the group. This fact is partly explained by the deep channels and strong currents which separate the islands. Intermigration is prevented by isolation.

The romance of the Galapagos lies in the fact of their having some time possessed a real Robinson Crusoe. A vessel anchoring at one of the islands sent a crew ashore. To the amazement of the sailors,

they were approached by a man apparently wild, little clothed, and with long hair and beard. A number of years before a party had searched the island for a valuable moss. This man had become separated from his companions, was left behind, and since then had lived on roots and fruit and what meat he could procure with his spear, which consisted of his knife fastened on a long pole.

Good Progress on the Canal

FROM Panama come encouraging reports of progress being made in building the great waterway; in fact, so enthusiastic have those in charge of the gigantic work become, that they declare the opening of the canal is not impossible by the year 1915, although others declare that 1920 would be a more conservative estimate. Construction work developed faster than was contemplated when the estimates for expenditures during the fiscal year 1908 were made nearly a year ago.

The estimate is made that about eight million dollars in excess of the appropriations could be used to advantage in pushing forward the work during the present year, and Colonel Goethals, the engineer in charge, thinks it would be in the interest of true economy to proceed along this basis and ask Congress at its next session to make good the deficiency, as the argument is made that, with the present organization and progress, the waterway can be completed more rapidly than by restraining expenditure within the appropriations now available. President Roosevelt has approved Colonel Goethals' plan, and Congress will be requested at the next session to make an appropriation to cover this deficiency.

Alaskan Farms to be Opened

NEARLY three million acres of land some fifty miles south of the Arctic Circle will be opened for settlement in Alaska on September 30th.

This great tract has been held in reserve for a national forest around Norton Bay, but the project was abandoned, so many were the demands for entry on land which had been found more suitable for settlement.

Agriculture is proceeding hand in hand with the efforts of government experiment stations, which are constantly determining what will grow which heretofore has been exotic to the soil. So far all the hardier vegetables have been made to thrive, and in the large valleys of the interior experiments are being made, with every prospect of success, to grow hay, grain and stock feed capable of maintaining work animals. The great valley along the Susitna River in central Alaska, extending north from Cook's Inlet and Resurrection Bay, it is declared, has a mild climate all the year, owing to the warm currents of the ocean, and will grow almost anything that is raised in temperate zones.

The permanent white population of Alaska is now thirty-three thousand, with six thousand nomads at work here and there. The increase now averages thirty-five hundred souls a year, a figure which the coming opening of lands is expected to swell materially. These people shipped to the states last year \$29,339,286 worth of gold, silver, copper and merchandise in the form of fish products. Cable, telegraph and mail connections are being generally extended, and already Alaska is ambitious to become a state.

Seeing Our Own Country First

THE editor of this department is just in receipt of a card from one of Uncle Sam's naval officers, who has been around the world several times, and who has visited most of the countries of special interest and beauty, in which he says a whole lot in the sentence "Greetings from the Yellowstone—the greatest trip of them all." And the truth expressed recalls to us the fact that each year thousands and thousands flock to foreign shores, forgetful of the wonders of our own country, and indeed in many, many cases totally ignorant of them. True it is that our country is too young to have the historical interest that the older countries have, but its great variety has a present interest unrivaled by any country on the face of the earth.

We have known of visitors to Europe, who, when accosted for information as to the beauties of the Hudson's shores, the natural wonders of the Yellowstone, the great agricultural wealth of the country, Niagara, Mammoth Cave, the Yosemite Valley, the Western plains, the Rockies, the Mississippi, etc., had to plead ignorance—they hadn't gone to see them, they had never visited the great cities of our country, the historic landmarks of New England or the rich cotton plantations of the South. All these and many more are seemingly forgotten in the wild scramble to go abroad. We are always glad to see friends and neighbors able to take the many delightful foreign trips, but we often wonder how much of our own country they have seen first.

A BROKEN MONOPOLY

By Aubrey Fullerton

WHEN John Evans, offshore fisherman, was lost in the storm that swept the coast of Long Island a few years ago, he left but one heir. To his son Stuart, nineteen years old and a sailor born and bred, fell his entire possessions. They consisted of a three-roomed cottage, an insurance policy for two thousand dollars, and the fishing schooner "Fair Wind."

On Long Island this was counted wealth. The cottage was snug and had been newly roofed; the schooner was somewhat the worse for winds and storms, but in her day she had been the fastest of the Longport fleet; and when the check for the insurance money arrived, Stuart Evans considered himself a capitalist. The problem that now faced him, in the sudden possession of capital, was what to do with it.

"Ye'd better leave it in the bank, Stuart," said Jonas Collins, his father's closest friend. "It's risky puttin' it out 'round here."

"Keep it till ye get married," advised neighbor Morton; "ye'll need it all then."

"Buy some boats and gear and hire us boys to fish for ye," urged some of his younger friends, with an eye to their own interests.

But Stuart kept his own counsels. For three weeks he debated with himself a number of possible schemes, which, however, he discarded one after another. Then a new one suggested itself, and upon this, after mentally turning it over for two days and two nights, he decided. It was not such a scheme as his friends had advised, nor did he now seek their approval. The first evidence they had of a decision having been made was when they began to notice that the young capitalist was spending much of his time around the "Fair Wind."

"Most likely he's going to clean her up a bit and keep on fishing," said Skipper Morton.

"If he puts any of his money into her, though, he'll be sorry for it," declared Jonas Collins; "she's good enough as she is for these parts. But a young un and his money is soon parted." Jonas was vexed that, as his father's friend, Stuart had not taken him into his confidence.

The wharf at which the "Fair Wind" was tied up now became Longport's center of interest. It was evident that, despite public opinion, Stuart purposed expending some of his new wealth at once. The little schooner was scraped and cleaned from bow to stern; she was given a fresh coat of paint and new canvas; and then she sailed away, with Stuart as skipper and two sturdy young islanders as seamen.

Stuart Evans had become a mystery. Jonas and his friends discussed him daily, but could make nothing of him or of his venture. To all their questionings he had answered, "Wait and you will see." But to wait was precisely what they could not do gracefully, and it was therefore with unusual satisfaction that some two weeks later they heard tidings of the truant vessel and her inaster.

Jerry Walker, who had been fishing down the coast for a month past, returned home by way of Farmouth, and reported that he had seen the "Fair Wind" in port there—had, in fact, paid her a visit. He told his story to an interested audience that night in Amos Bootler's store.

"And he's tearing her out inside, do ye say?" asked Jonas Collins.

"That he is. He's lengthened the cabin, cut a door through into the hold, and cleared out all the fish tanks. He's got the whole place looking like a parlor."

"P'raps he's going to run her as a yacht," suggested one of the benches.

"Well, he cert'ly ain't agoing to run her as a fishing smack," Jerry replied. "White paint and eodfish don't make a very good team. I asked if he was agoing to put the fish in the cabin, since he'd taken the tanks out; but he just grinned, and said he reckoned he had some other use for the cabin."

"Is he fixing it up any?"

"Rather. He's got shelves run all 'round three sides and big hooks stuck into the ceiling. It looked so all-fired ridiculous for a fishing smack, that I asked him if he thought of getting the mail contract and running her as a post-office boat. He grinned again, and said to keep on guessing."

"What do ye make of it, Jerry?"

"Can't make head nor tail of it. And to cap all, he's gone and changed her name and registered her at Farmouth as the 'Fair Trade.'"

"Did he say anything about coming up?" asked Trader Amos.

"I b'lieve he did say he'd be up purty soon. And he sent a sort of message like that he'd be glad to see everybody when he came and 'd show them all over the schooner with much pleasure."

It did not occur to any of the company that Trader Amos was especially interested in Jerry's story, for he was too much of a diplomat to show it. But after they had gone, and he had hung the shutters for the night, barred the door, and put out all the lights but the one over the desk, he sat down in his one-armed office chair and for some minutes looked very hard at a stack of empty boxes and thought very hard of something with which the boxes had nothing to do.

"I don't believe he'd dare do it," he said at length, "but it looks like it. If he does, I'll fix him."

With which the trader sprang to his feet, turned out the remaining light, and left the shop by the back door, walking away as if fired by some new and stirring purpose.

Amos Bootler was a monopolist. His was the one and only store on Long Island. For twenty years now it had been the trade center from which the islanders were supplied with food and raiment and to which they paid their weekly

tribute. There had once been five stores on the island, and in those days it had been possible to beat one storekeeper's prices down by tactfully hinting that the goods in question could be had much cheaper at one of the other stores; but now there was no possibility of bargain shopping. When Amos Bootler came to the island it was with the ambition of being its exclusive trader, and to that end he had within three months bought out the stocks and good-wills of four of the old-established storekeepers. The fifth refused to sell; whereupon Amos Bootler declared war.

There followed such a season of cut prices as Long Island had never known before and has wished for in vain since. It was merely a question of which trader could cut farthest and hold out longest; and in six weeks Amos Bootler had won. Then prices went up.

From that day there was but one store on the island. Not, however, but that efforts were made to break the monopoly. At least once in every two years, an islander who did not fully appreciate Amos Bootler's Scotch temper, or some outsider who had not yet learned of the local trust magnate, attempted to open a new business at one or other of the villages. But invariably Amos Bootler ran them out. In one or two cases, where he recognized a foe worthy of his mettle, he deemed it the wisest policy to buy him out before he gained a business footing on the island; but ordinarily he adopted methods less scrupulous and not so expensive. Just how he did it, the public never knew; but sooner or later the result was the same: the new store closed its doors, its disheartened proprietor left town, and Amos Bootler remained again the one and only trader on the island.

The monopoly was profitable. That is why Amos Bootler clung so tenaciously to it, for otherwise Long Island was not a place to hold a man of his genius. His business extended over the entire island, some fifteen miles from end to end. The store was at Longport, its largest village, half way up the south shore, and from here a large supply wagon was sent out twice a week in either direction to the other settlements.

Trader Amos was proud of this wagon. Its body was fitted with shelves, bins and boxes, and carried a stock of the wares that long experience had shown to be the most likely of sale. And some of its customers said that the lack of competition was fully made up to them in the convenience of having a store brought to their doors. Therein Amos Bootler was shrewd.

A week or two after Jerry Walker's return, the "Fair Trade" sailed into Longport harbor in the beauty of new paint and new sails. She had always been a solid craft, and now, having taken a new lease of life and a new name, she was even pretty. She had been looked for daily, and a large proportion of Longport was at the wharf to meet her when at length the word was given out that she was coming.

A fair breeze was blowing, and the vessel sailed up the harbor under full canvas. But while still eight times her own length from shore the sails were lowered and an anchor dropped. The crowd was plainly disappointed, and some of the villagers were heard to say that if Stuart Evans meant "to keep up a game of hide and seek or blindman's buff with them, his own friends, he was making the mistake of his life." Just at that moment Stuart made another move on the vessel.

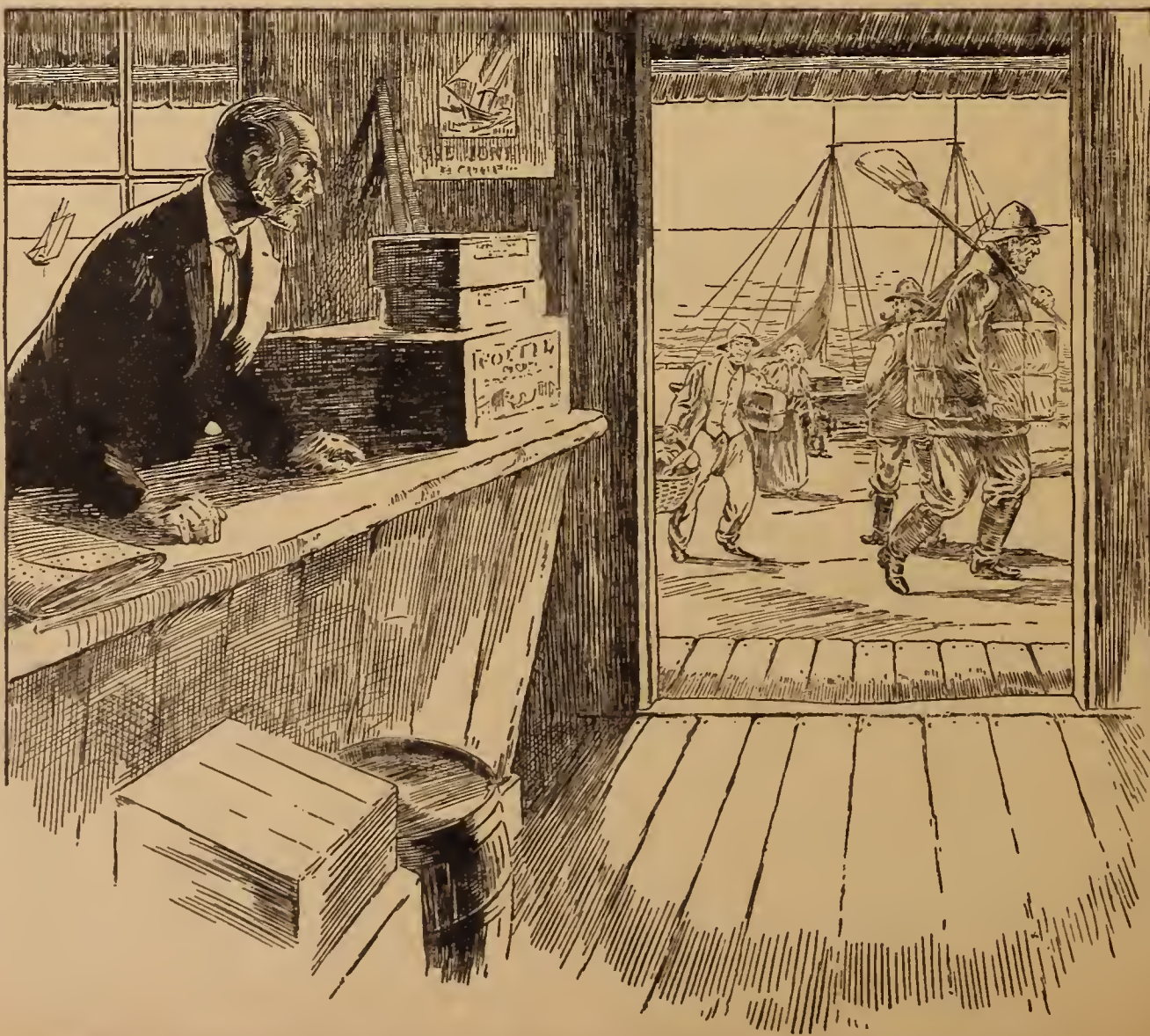
A gorgeous red and white flag went suddenly up the mainmast and straightened out to the breeze the two words, "Fair Trade." At the same time a long white streamer lifted at the stern of the vessel, bearing the legend, "Long Island Merchant Ship." And then, between the two masts, a sheet of white canvas, nearly as large as the sail itself, was raised, announcing in bold letters: "Trader Evans Will Be Ready for Business Tomorrow Morning. Full Stock of General Merchandise on Board. Come, See, and Buy."

The crowd on the wharf watched these displays with interest, but still with uncertainty. Then it "caught on," and forthwith raised a cheer for Trader Evans and the "Fair Trade" that reached the ears of Amos Bootler at his store and gave that gentleman's features a harder set than usual. It was the beginning of war.

When Longport wakened the next morning, the "Fair Trade" was at the wharf. She was as clean as a pin and ready for visitors. A new gangway led down from the wharf, and a number of chairs had been placed invitingly about the deck. Stuart Evans, as prospective host, was hurrying from deck to cabin, giving orders and critically examining the appointments of his little merchant ship. Very soon he was receiving his first callers.

Every one who was not bedridden or away from home visited the "Fair Trade" that day. From his store Trader Amos could see that all day long custom that should have been his was going the way of the wharf; people went at all hours, and came back with bundles and baskets that meant diminished sales for himself. He had never seen quite such competition as this before.

Trader Evans, in the double capacity of host and merchant, showed the marvels of his ship and measured out his wares. The cabin had been transformed into a complete and compact department store. As Jerry Walker had said, three sides were filled with shelving, which now held a miscellaneous stock of things to wear and to eat. From hooks in the ceiling hung tinware; neat box bins on the floor held bulk goods; and a short counter ran half across the farther end of the cabin. Back of this opened a door into the



"From his store Trader Amos could see that all day long custom that should have been his was going the way of the wharf"

hold of the vessel, a part of which had been fitted up as a storeroom for the heavier goods.

It was a very neat establishment and a well-assorted stock, and Trader Evans was rightly proud of it. That his visitors appreciated it, too, was shown by the number of their purchases.

The "Fair Trade" remained at Longport a week. Then she raised sail and headed for the next settlement up the shore, where the Longport program was repeated for a shorter time. Thus passing from one point to another, she worked her way around the island, sold out half her stock, and then went to Farmouth to renew supplies.

The idea had taken. Amos Bootler's traveling store that brought its wares to the customer's door had a rival now that also traveled, but in a different way.

That was the beginning of open trade on Long Island. Trader Amos did not like it. It worried him. To be sure, other would-be traders had made the attempt before, but none of them had been like this. It was a harder matter to get rid of a rival whose tactics were as clever as his own. And a mere boy! But Trader Amos thought hard, and doubted not that he would find a way.

On her second trip the "Fair Trade" reached Longport in the late afternoon of a rainy day. She anchored in the harbor, as before, and began preparations for opening business the next morning.

The wharves were deserted that night, and in the sodden dark even the harbor seemed dead. Stuart's crew of two had gone ashore, and their boat had been the only one on the water since six o'clock. Therefore Stuart, alone on his vessel, was the more surprised to hear the sound of rowlocks, and on mounting the deck, to dimly make out the form of an approaching boat, in which sat one man bending hard to the oars. Presently he had pulled alongside, and in a voice and form not at all sailorlike called out:

"Hi, there, is Stuart Evans aboard?"

It was the voice of Trader Amos, and, unnatural as it sounded in the storm and wind, Stuart knew it.

"Yes, Mr. Bootler; can I do anything for you?"

"Ye're verra sharp, young man," said Trader Amos, somewhat taken aback. "But ye're a keen one anyway, and I'll admit ye've a head for business. How do ye find trade?"

"Oh, very good, sir. Will you come aboard?"

"It's a bad night and I mon get back to the store. But I had a matter to speak to ye of. I've a verra fine lot of molasses at the shop that I bought before ye set up trading, and now ye've cut into me so I'm feared I shall lose on it. So I was wondering if ye wouldn't come ashore and look at it, and perhaps we could make a deal for ye to take some of it off my hands. I'll let ye have it right."

This seemed very like a truce of peace; it was, at any rate, a concession on the trader's part to Stuart's abilities as a competitor, and the implied compliment was not without its effect. Besides, good molasses was scarce.

"I might come and look at it," said Stuart, "but won't the morning do? I'm alone to-night."

Trader Amos knew he was alone, he had seen his crew when they landed at the wharf; but it was not his purpose to explain that his own errand was due to that fact.

"Well, ye see, I'll be going up the road with my wagon in the morning, and chances are I'll be away over night. Ye're not feared anybody'll run away with the vessel, are ye?"

Stuart had never been one to refuse a challenge. It was not so pleasing to be dared as to be flattered, but it went to show, he thought, that the trader was sincere. It was kind of him to come, too. And so, after carefully securing the door of his cabin, the younger trader slipped down the side of the vessel into his rival's boat.

Trader Amos afterward reminded Stuart that the vessel was tossing considerably and straining at her cable, as they pulled away that night. When on shore they tied the boat up and hurried together to the store.

A few minutes later a stealthy figure crept out from behind one of the wharf houses, launched another boat, and rowed as quickly and quietly as possible to the "Fair Trade." There he climbed aboard, passed forward, and began to work among the chains. Presently, but not without difficulty, he had raised the anchor and lashed it to the railing. Then he took hurriedly to the boat again and pulled for the shore.

The "Fair Trade," feeling her grip gone, rolled helplessly and plunged forward her own length with the next heavy wave. And then, waiting for a moment, she seemed to feel a truant sense of freedom, an unrestrained impulse, and her second plunge carried her faster and further. Half an hour later she drifted into the Bull Rip, a surging whirlpool just out-

side the harbor, out of which no vessel had ever yet come alive; and when the mad water spirit had done playing with the little schooner, had broken both her masts and swept her deck, it cast her up on the rocks of Breakneck Cove with a final wrench that stove her sides in and left her as hopeless a wreck as ever the Bull Rip had to its credit.

The deal between the two traders took longer in the making than in the proposing. Trader Amos' professed desire to lighten his stock of molasses proved not to be so great as to override his accustomed fondness for a close bargain, and a full hour had gone when Stuart Evans left the store. He was to return to his vessel in the trader's boat—a hard row, he well knew. But row as he might, he seemed no nearer to the vessel and could find no glimmer of her light.

The vessel was gone!

The lightkeeper at Breakneck Cove found her the next morning on the rocks, and all that day Stuart Evans heard the regrets of Longport and of Long Island generally. Even Trader Amos said it was a pity, adding that of course Stuart need not now consider himself bound to take that molasses. He was once more the only trader and could be generous.

But Trader Amos did not know that Stuart had had his vessel well insured, and he could not foresee that within six weeks his plucky young rival should have bought and fitted up another schooner and re-established his trade. The monopoly was still in dispute.

The wreck of the "Fair Trade" passed into history, as do all such things, after serving the community as more than a nine days' wonder. An investigation was held by the insurance company, but without results. It seemed a sufficient explanation that the vessel had broken her cable and drifted through the Bull Rip. This was a plausible theory, because, as a matter of fact, the anchor, which had been lashed to the railing, had loosened, and finally broken off, the only clue to

the real cause of the wreck being thus removed.

Some three months later, Hardy Tall, the half-witted butt of Longport's practical jokes, was moved by some unknown prompting to confess that no storm, but his own hand, had set the "Fair Trade" adrift. He told the story as one who felt some pride in a deed daringly done, and the more so because he had kept the secret so long and so well; but now he felt that so good a piece of news must be told. He said further that he had done it at the suggestion of Amos Bootler, who in return for the deed and for his silence had promised him a suit of clothes.

Longport now rang with the greatest sensation it ever had had. A lawsuit was entered against Trader Amos, but he defended it stubbornly and skilfully. The sole evidence against him was the testimony of an idiot; should that be credited, he asked, when it was known that once before this same man—a most dangerous person to allow in the community—had of his own accord set fire to the Longport schoolhouse?

Trader Amos won, and was declared guiltless of the charge; and once more the matter seemed in a fair way to be forgotten. But spite of judge and jury, the people of Longport believed Hardy Tall's story. It was privately talked over for months afterward, and gained in credence with each telling; for it explained some of Amos Bootler's previous transactions. And in this, it must be said, the people judged more truly than the court.

Longport thereafter looked askance at Trader Amos, and after enduring the repressed suspicion of the public for some six months or more, during which time he steadily lost trade, he one day crossed to the mainland and did not return.

But Trader Evans is still selling there, though no longer from a schooner. Other storekeepers have set up business along the shore, but the man who broke the monopoly is Long Island's popular trader.

[THE END]



TORPEDO BOAT NUMBER 83

By John Cotswald

LEUTENANT BERRIS saluted. "Very good, sir," he said, and in another moment was climbing nimbly down the ladder. He stepped briskly into his waiting rig, nodded to the coxswain, and, "Give way!" came the order. Four oars dipped simultaneously into the heaving ocean, and the little boat jumped out from under the tall sides of the flag ship. In another moment she felt the full force of the whole sail breeze; she dipped and pitched to the tossing seas, but in a few minutes the long, steady pull of the crew had run her in close up under the low-lying torpedo boat. They hoisted her in, and fifteen minutes later No. 83 ran quietly out from the big fleet of war ships, and was swallowed up in the gathering mist and driving rain.

She scudded along, her high bow and funnels almost the only parts of her visible—

Just a funnel and a mast
Lurching through the spray,

while inside in his little six-by-eight stateroom sat the young lieutenant, pouring over a scrap of paper covered with rough figures and hasty sketches. His brows were knitted in a perplexed frown; his fingers drummed nervously on the table.

The little vessel lurched and pitched and shivered, as the great seas pounded her, but the officer was engrossed in his study. His whole attention was wrapped up in that interesting bit of paper. Presently he struggled to his feet. "It's my chance!" he exclaimed. Then, tucking the paper away in his breast pocket, he climbed up on deck.

"What's she doing?" he queried, as he clung to the frail-looking rail of the raised steering bridge.

"Sixteen, sir," came the reply from the chief petty officer in charge.

The lieutenant shouted something down the speaking tube; there was a sound of bells, and almost instantly the torpedo boat began to increase her speed. She fairly drove her way through the waves not over them. She cut out a lane for herself, leaving behind a long trail of seething foam. The smoke was caught up by the gale and hurled away ere it scarce left her funnels. The back stays of her pole whipped and sung in the racing wind; her triangular bit of bunting stood out like a painted tin flag; her high freeboard was completely hidden in a mass of seething, roaring foam.

In fifteen minutes the lieutenant quit the bridge and again sought his cabin. He pushed a button, and an orderly in trim

white jumper and working cap appeared. "Tell Mr. Whitside I want to see him," said the officer.

An old gray-haired man appeared—Samuel Whitside, Chief Boatswain, and second in command of No. 83. The two sat down side by side, and studied the same piece of paper.

"Here they lie," pointed out the lieutenant, indicating a few dashes. "We make our run from here—the others are waiting here. It's a long chance, Sam—the odds are that we go under—Here are the chief's orders." He handed over the signed order.

The elder man studied it for some moments. "You are sure the positions are right, sir?" he questioned, looking up.

"That's how they are given to me. They are supposed to be correct and exact in every detail—the tip's six hours old, that's all. Note how they run? 'The Biscay' comes first—she mounts no six-inch, only heavy pieces, twelve three-pounders and her machines. Her stern's safest—only a couple bear there. We'll run close in, stand right under, and do our worst. If we get through we'll run for the next in line—'The Dumas.' She's a broadside battery of sixes, you know—the four main-deck ones have end-on fire, and she's plenty of rapids. After that it's just luck—the whole squadron will be alive—but our boats should be coming in with their attack, so that we may get a show to get out."

"Speed," emphasized the older man, "speed, that's our one chance. We can go in at a twenty-three gait, and if the shells keep out we can keep it up; the night's all right, couldn't be better, bar the seas. Our orders run to take our own course independent of the other, don't they sir?"

"Yes; but we'll get away with the rest if they let us. Daniels will be at the bow torpedo, of course, and Murry at the other. You'll be at the wheel with me, Mr. Whitside, and if anything goes wrong with us, Wellings will take a trick; after him, Gunner's Mate Gross, and so on down. Let it be understood. In case we go under, it's the small boats and swim; but, Sam, don't forget that it is to strike we came—strike, and strike hard. We must get in with our torpedoes; I want to account for two of them, anyway."

"Of course, sir," assented the older man. "Anything else, sir?"

"That's all; let the coffee go around before we make our dash."

"Aye, aye, sir."

The lieutenant was alone. Only the pounding of the engines, the racing of

the screws and the hammering of the waves sounded. For the time one might count a hundred he stood deep in meditation, then he reached for his oilskins, and climbed out on deck again.

The night was black as pitch, and the gale still increasing. He relieved the officer on the bridge, taking the wheel himself. The torpedo boat was as dark as the night; not a glimmer of light showed. Presently the old boatswain took his stand beside his chief. Neither spoke; each gazed intently out through the gale. Now and again the lieutenant would raise his night glasses, shaking his head and muttering as he lowered them again. It was nerve racking, this waiting expectancy. Fifteen minutes passed, when suddenly both men uttered an exclamation.

A blinding beam of white light had flashed across the storm-tossed waters away on their port bow. It swept slowly to and fro, searching like some giant hand for something. No. 83 shivered, and slunk away like a thief. Not yet! The hand had not yet found her. She raced on. She must get between that blinding light and the unseen shore. She must creep in past the shoal waters; with her light draft she must skim the shallows, and there, from the unexpected quarter, make her mad dash. She was in the danger zone now. At any moment a patrol ship might challenge. At any moment that brilliant light might open her up into the view of the whole fleet. A spark, another, whizzed from her after funnel. The lieutenant roared angrily down the tube.

"They'll give us away yet," he muttered to himself.

But now a muffled roar broke upon his straining ears. The roar of the breakers pounded upon a rock-bound coast. Still No. 83 raced on. Not a muscle did the lieutenant move. With terse hand grasping that wheel, he waited, waited. Suddenly he sprang into action. The wheel was jammed hard down, and the little craft spun around on her heel like a top. She scooted along with the roaring surf but a few cables away on her starboard.

The boatswain whispered hoarsely to his chief, "Stand out a point, sir, you'll beach her!"

"I'll clear the point, and then there's room," came back the muttered answer. "There's their end ship; I saw her light a moment ago. Ready all, Mr. Whitside; now we'll run in."

Again the wheel was put hard down, and again the little craft cut through the cross seas. One moment and she was in inky blackness—the next she stood out bold and clear in the focus of a withering shaft of light. She shot out from it into the blackness again, while the light groped blindly, searchingly about, like some monster searching for its prey. It fastened on her again, and at that same moment there broke out a perfect hell of noise—the rattle and screech of the machine guns, punctuated by the deeper roar of the five and six inch guns from the watching warship. The storm-tossed sea was cut by a hail of shot and shell, and a dozen searchlights fixed themselves upon the hapless boat. Her funnels belched fire. She fairly leaped her own length and scudded on like a frightened deer, the lieutenant and boatswain clinging to her reeling rail and kicking wheel. She fled past a high wall of slate-colored steel, not a cable's length away, and as she swung around and dashed up the line, a muffled roar and a shuddering of her frame told her bolt had sped. And then a mightier and more awful roar broke above the din of the storm. A tongue of flame leaped high up into the night from the doomed enemy, and the lid seemed to be suddenly removed from the pit of hell, and from that lurid flare and din No. 83 fled and sped wildly along her course of destruction, belching fire from her funnels and death from her hull.

The whole scene resounded to the crash of cannon and the flare of lights. The seething waters hissed and roared to the rattle of the machine gun, and still No. 83 sped on, untouched and unharmed. Again her frame trembled to the discharge of her sixteen-inch torpedo, and then Lieutenant Berris suddenly flung the wheel hard over, and the little craft was off and away, headed for safety. Other dark hulls were racing with her. The rest of the torpedo squadron was running, too—their work was done. Only a leaping flame from a funnel, or a cloud of flying sparks, told where they were, while behind was a babel of shouting voices and the roar of confusion, as the enemy fired wildly in every direction and shrouded themselves in vapor, or launched boats or rowed desperately to the rescue of their sinking comrades.

Away, away, you racing destroyers—away, No. 83.

"Good luck to those who get away—
God help those left behind."

The story section of FARM AND FIRESIDE is going to sizzle with good things during the fall and winter months, so if you are a lover of good, pure, wholesome and entertaining fiction, just keep track of these pages. It will surely be worth your while.

The Reaping Time

BY BARBARA WILLIS

"WHAT a beautiful child! Isn't she too cute for anything? Isn't that a lovely dress?" These were only a few of the exclamations that were whispered about as a dear little girl of six "spoke her piece" at the country literary. She was beautifully dressed and seemed to enjoy her fine feathers as much as any one. Her proud young mother stored all the compliments up in her mind to tell her daughter when she was old enough to know what they meant, and felt repaid for the long hours spent on the tucks and frills as she heard the storm of hand clapping. The little recitation was nothing remarkable, and most of the applause came because of the daintiness and beauty of the child, but it was sweet to the ears of the mother just the same.

An old lady in the crowd remarked that the little girl's mother was laying up trouble for herself in the future, but the young woman to whom she said it put her down as a grumbler instead of a shrewd observer of human nature. "Sally Riggs thinks she is doing well by little Elizabeth now, but wait till by and by," said the old lady. "She piles everything on that child, and hardly has a decent dress for herself. One of these days she'll see her folly if she won't now." Sure enough, Sally Riggs did look rather shabby as she sat smiling over the success of her daughter, but she was young and radiantly happy, so who could ask more? The wise old lady was right in her prediction, however. As pretty Elizabeth grew older and kept on wearing dainty clothes she grew ashamed of her shabby mother. Poor Sally Riggs sees her mistake now, but it is too late to remedy it. Elizabeth is vain, disrespectful, shallow, idle and silly, but her mother made her so. She taught her the lessons of selfishness and idleness when she gave her the best of everything and shielded her from all work. She sowed the seeds, and now she is reaping the harvest.

If any young man is sensible and sane enough to look about a little before falling in love with the first pretty face he sees, he will do well to beware of the girl who is always better dressed than her mother. Of course there are exceptions to all rules, for some mothers are too lazy and careless to care for their personal appearance, but where the daughters go clad in silks and the mother in calico there must be something wrong. It isn't the fault of the girls, remember; but that doesn't rid them of selfishness. If they have been trained all their lives to think themselves the most important members of the household they will hardly make good wives. The mother should always have better clothes than her daughters, because she is the one who has toiled and saved to help make the family what it is. Then, too, the daughters have health and beauty and the charm of youth, if they have been properly brought up, and need few handsome clothes to make them appear well. A young girl in a simple white dress is always more beautiful than when decked out in clothes suitable only for mature women. Clothes do not make the girl by any means, but they tell a great deal about her character and home training.

The young mothers, and older ones, too, really enjoy spending the money for their daughters rather than for themselves, but they do not enjoy the results of putting the girls forward when the time comes that the young people are ashamed of them. If the mother teaches them to regard her as a sort of servant in the home, who can put up with anything in the way of clothes and take the hard tasks to keep the hands of the daughters white and soft, she must expect them to be true to the lessons implanted in their young minds. True, she didn't think she was doing that when she allowed, even urged, them to shirk the hard tasks, but that is exactly what she was doing all the time. For the welfare and happiness of the girls, if not for the sake of her husband and herself, every mother should keep the first place in the home. Any other course is sure to sow the seeds of discord and bring a harvest of bitter regret.

So don't blame the young girls when they are selfish and impertinent and idle. They would not be that way if they had been brought up right. It may seem harsh to add another burden to the load carried by the tired, discouraged, unhappy mothers who have trained their daughters in all these unlovely traits, but truth is truth. "I don't want my girls to have to work as hard as I do," is a poor motto for any mother. Even if she thinks it, she had better keep it to herself. The happiest homes are those where the mothers are the queens and rule their little kingdoms with common sense and love. From these homes come the daughters who are unselfish enough to make other good homes, and thus make home a place of joy and gladness. The reaping time



will come for every mother, and it depends upon herself what the harvest shall be.

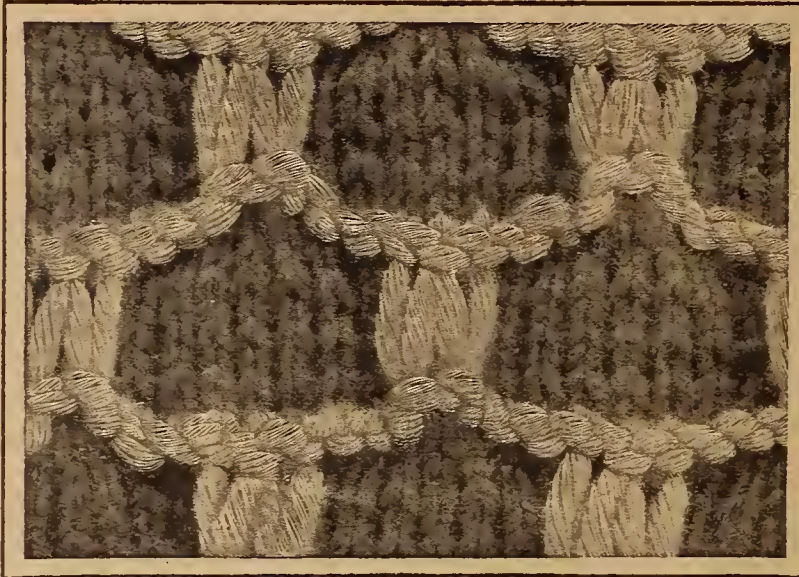
A Chat About Fireplaces

BY DEBORAH SYTHE

NOTHING improves a room so much as a well-designed fireplace. The hearth is the center of the home, where the family gather in the evening, and the kindling logs cast a spell on those gathered around its glowing embers.

It does not fall to the lot of most of us to be able to choose our own fireplaces, but for those who are building and are able to have a choice in the matter, some of our illustrations should be helpful.

When additions are planned it should be remembered that nothing will improve the room so much as the right kind of fireplace. It is not always the most expensive



THE HONEYCOMB STITCH ENLARGED IS USED FOR ELABORATE COUCH COVERS

that are the most artistic, but it is essential that each fireplace should be entirely in keeping with its environment. The bedroom with walls covered with a blue-and-white-striped paper has a particularly well-designed mantel. It is built plumb with the wall, following the line of the wainscot. The blue of the paper is carried out in the facing tiles in a panel let in beneath the shelf. On one side of the fireplace a charming little window seat is built. The room is furnished in mahogany with a quaint old four-post bed, and the floor is covered with a rug in soft shades of blue. Such a fireplace would be suitable in nearly any Colonial bedroom, but the inglenook adds to its pleasing qualities.

A sitting-room fireplace has a facing of dull gray tiles, simulating bricks. Above the mantelpiece is a window filled with stained glass in subdued coloring. There is quite a Japanese feeling in this attractive room, the walls being covered with a Japanese grass cloth with a flower motif. The mantel shelf is made of carved wood painted ivory.

Sometimes an addition is planned to the house for the convenience of the growing sons, and very often this entails the building of a fireplace. The simple one illustrated could be made by the home carpenter. It consists of two straight columns, with a plain piece connecting them. Across this a shelf is run, supported by four slanting brackets. The face and hearth consist of ordinary house bricks, a decorative touch being given to them by the wide pointing of mortar. This fireplace is built across a corner, but could be just as easily built in the center of a wall. It is intended for a small room, and would certainly be much more beautiful than a stove standing out in the room.

The advantage of a fireplace on this order is that a log fire can be lighted a short time before it is needed, and the cost is small when it is not kept in all the time. The room where the mantel is built has the walls covered with common undyed burlap, which makes a delightful background for some well-chosen prints. The space above the mantel suggests a wide, low picture. It would lose half its beauty if a high, narrow one were placed there.

The Honeycomb Stitch Enlarged

THE honeycomb stitch enlarged is used for high-class afghans, and one finds in it unsuspected beauties. This is a stitch which ordinarily is seen in two colors, yet in it, perhaps, may be more successfully developed that combination of delicate tones of which we spoke before than in any other stitch.

Putting color aside for a moment, however, let us first consider the construction of the honeycomb stitch when used in afghans. Here again enough stitches for the width are cast on, but eightfold German-town wool is used, and about a number 2 or 3 bone knitting needle. The total number of stitches must be divisible by ten, and upon them one row is knit plain, then a second row as follows: Knit four, * knit two (for each stitch winding the wool three times over the needle), knit eight, and repeat from *, ending the row with knit four.

The third row is worked with fourfold German-town wool in a contrasting color. Knit four, * slip two (dropping the three loops of each in one long stitch), knit eight, and repeat from *, ending the row with knit four.

For the fourth row purl four, * slip two, purl eight, and repeat from *, ending the row with purl four. Repeat the last two rows three times, then knit one row in the coarser yarn.

For the twelfth row knit one (winding the wool three times over the needle), * knit eight, knit two (for each winding the wool three times), and repeat from *, ending the row with one knitted stitch made with three loops.

For the thirteenth row, using the finer wool, slip one, * knit eight, slip two, and repeat from *, ending the row with slip one.

For the fourteenth row slip one, * purl eight, slip two, and repeat from *, ending row with slip one.

Repeat last two rows three times, then repeat from the first row for the length of the afghan.

Delicious Buttermilk Bread

BY SARAH E. BRANDIS

TO MAKE THE SPONGE—Take one and one fourth pints of fresh sweet buttermilk from sweet cream, two heaping teaspoonfuls of sugar, one heaping teaspoonful of salt, one half cake of yeast, and enough flour to make a rather stiff batter. Scald one half pint of sifted flour with the buttermilk (boiling hot); stir well, mashing all the lumps in the flour, then add the sugar and salt. Dissolve the yeast in a little tepid water, and add this to the sponge when it is a little more than milk warm. Beat thoroughly, cover and set to rise in a warm place. In the morning it should be very light and covered with bubbles. The sponge is ready when these air bubbles which gather on the surface break when the cover is removed.

In mixing the dough, sift six pints of flour into the mixing bowl, add one teaspoonful of salt, one tablespoonful of lard and one half teaspoonful of soda; add the sponge and water to form a smooth, stiff dough. Knead fifteen minutes. Set to rise where it can be kept at an even temperature of seventy degrees. When light, mold into loaves. Set to rise again, and when light, which will be in about two hours, bake in a moderate oven for one hour.

Fall Thoughts for the Flower Garden

IF THE woman of the home expects her spring garden to be gay with the crocus, hyacinths, tulips and narcissi she must be making preparation for the fall planting. A person with a large yard minus a bulb garden misses a great share of the joys of living. Even a small yard should contain a number of bulb plants, for no flowers are more beautiful. The many brilliant colors of tulips, etc., are their own best recommendation, and the bulbs are easy to cultivate. Plant them any time from October to December, and enjoy an ample reward in spring. However, try to get them under the ground before the last-named month, otherwise they may not get started before the severe cold weather sets in.

If you intend to plant largely of the different varieties, put most of them in a little garden by themselves. They will generally be more satisfactory in this way than scattered here and there in miscellaneous beds. The ground along the south, east or west side of a house may often be spaded up and made into bulb beds. Even the north side will do, although this should be chosen last of all. If the soil immediately around a dwelling was originally excavated from the cellar, it should be removed when the bulbs are to be planted, and new mellow soil substituted for it. It may be left between the beds, however, where it will harden down into excellent "walks." If the ground is well drained, and all



FOR THE BOYS' DEN



FOR THE SITTING ROOM



FOR THE BEDROOM

THREE GOOD IDEAS FOR INEXPENSIVE FIREPLACES AND MANTELS THAT SHOULD BE CAREFULLY CONSIDERED WHEN BUILDING OR REMODELING A HOME

that it should be in other respects, merely spade it deep and rake it mellow. If water stands upon the ground instead of sinking down, and it is too hard to cultivate, remove it to the depth of over a foot, and in the bottom of the excavation put a substantial layer of gravel, coal ashes or something similar, to ensure good drainage. Over the gravel put some straw, leaves or decayed unpulverized manure, to hold up the soil. This should be composed chiefly of mellow, turfy loam from the meadow or vegetable garden. Thoroughly decomposed manure, leaf mold and sharp sand may also be added. However, in planning a bed for narcissi, do not get the soil too rich. These bulbs do not seem to require much food.

Hyacinths and tulips, on the contrary, are hearty eaters, and should be well fed. However, in either outdoor or indoor bulb culture, fresh stable compost should never be used. It is a good plan to get the ground all ready before the bulbs are received, then they can be planted immediately and not become spongy by exposure to light and air.

In order to get a good display, do not plant the bulbs too far apart. The size of the different specimens will sometimes determine this question. Large hyacinths and narcissi should be set six inches from each other, while medium and small sized bulbs of these flowers, together with tulips, may be planted four or five inches apart. All the above varieties should be put about four inches underground, while smaller bulbs, as crocuses, scillas and snowdrops, will do well two inches apart and two deep. A very pleasing bed can be made by planting alternating circular masses of scillas and snowdrops in a round plat. Or, still better, the third and outside circular rows may be composed of yellow crocuses. Blue and white flowers of any class go particularly well together.

Crocuses are effective when planted in irregular masses on the lawn. Mixed bulbs are good for this purpose, and from three to fifteen may be planted in a clump. A few straggling ones should be disposed of here and there, to give the idea of informality. Round, square or oblong beds are also pleasing when planted with masses of crocuses in separate colors. Tulips and hyacinths are probably seen at their best when the colors are grouped so as to contrast strongly and yet in harmony. White and orange narcissi will also acquire additional beauty when planted in masses in the same plat. Plenty of old-fashioned daffodils and jonquils should be placed along the shrubbery border, and other left-over bulbs used the same way.

While bulbs in masses are entirely satisfactory, mixed specimens of hyacinths, etc., are also to be desired. This is especially so where expense has to be considered, and where one has neither sufficient time nor experience to bother with ribbon beds. Early and late tulips—and in fact early and late and single

and double bulbs of any class—would better be kept in separate rows by themselves, while hyacinths, crocuses and narcissi should never be mixed in planting. Late in the fall, after the soil has frozen, put a quantity of decayed stable compost over the bulb beds. Leaves may also be used, either with or without the manure.

The purpose of applying this covering is to prevent the ground from freezing deep enough to harm the bulbs, and if frost is already in the soil, to keep it there. It is not zero weather alone that works havoc with this class of plants, but it is alternate freezing and thawing, which has a tendency to heave the bulbs from their positions and tear the roots. In early spring, during pleasant weather, the hyacinths, etc., are liable to start into premature growth and be more or less damaged by subsequent blizzards. When bulbs are left unprotected, and do very well at the season of flowering, it is principally because the winter has not been severe and other conditions have been right. Tulips, however, are hardy and can stand almost anything. If leaves are used for protection, they must be held down by evergreen boughs.

No flowers are more beautiful than lilies, and a portion of the garden should be planted to them this fall. The sooner they are started, the better. Set most of them eight inches deep and at least a foot apart. Surround each specimen with sand or powdered charcoal, to prevent decay. Have the soil deeply spaded and mellow. If it is not quite porous, remove it to a certain depth, and provide good drainage as has already been described. Lilies will not be satisfactory if forced to stand in frozen water all winter. They are so beautiful that one can afford to make the soil all that it should be. Particularly fine are the varieties known as Auratum ("the golden-banded lily of Japan") and Speciosum rubrum.

Bulbs of any kind planted this fall will not need to be disturbed for three years; then it will probably be advisable to lift them in June, when the foliage has begun to turn yellow.

After sorting, store in boxes of sand in a dry, airy cellar. In the fall plant them outdoors again, in new, mellow soil. Many annuals, except those that form a thick, mat-like covering over the ground, may in June be planted between the rows of bulbs. If you desire to remodel a bed before the hyacinths, etc., have matured, carefully lift the bulbs, and place them in a trench that has been dug in a safe, sheltered, unused part of the yard. Cover with soil, and leave until ripened.

Bulbs do not do their best when planted immediately around the roots of trees, but they can be set close up to the stonework of a house with good effect. In warm, gravelly soil on the south side of the house the bulbs will begin to grow sooner than if planted elsewhere. It is best to give plenty of sunlight, although if the north side is better in other respects, plant the bulbs there.



How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

Farm Work Hard, But Profitable

Like many girls who live on farms, I earn most of my own spending money. For four or five years I have helped make the hay on two farms for my uncle, and last year I milked from four to eight cows every night and morning. I bought a white turkey last year, and raised seven nice young ones from her, which brought me more than eleven dollars.

VIVA C. SPAULDING, Pennsylvania.

String Beans

Each year I have sold from ten to fifteen dollars' worth of string beans. In the early spring I netted a neat sum also from the sale of young onions, turnips and salad. I live four miles from town, and always find my fresh vegetables eagerly sought for by my customers. I sold a great many peas last spring, and next year I shall plant a great many more.

MRS. MILDRED TYRRE, Kentucky.

Taking Orders

I take orders each Saturday for certain days of the following week, and am making money by selling chickens, cottage cheese, Saratoga chips, gingerbread and vegetables in season. I find that it is the most profitable to have an early garden, as I always get better prices for early vegetables.

I also clear up a neat sum by making

sweet and sour pickles. I start customers by going around to them and giving them a sample, and then take orders. The customers furnish the jars.

I raise my own cucumbers, cabbage, onions, peppers and tomatoes, and I also take orders for dry sweet corn; in fact, I get more orders than I can handle for the latter.

MRS. F. D. FOWLER, Iowa.

Cotton Lamp Mats

I make for sale cotton lamp mats that are very pretty. I make them in two or more colors of glazed cotton and in different sizes and shapes. There are no ends of ways for using these mats, and I have no trouble in disposing of all that I make at a profitable margin.

ANNA MENDENHALL, Indiana.

Raising Pigs

I am making money raising pigs. I have one good sow at present that during the early spring brought ten little pigs, all nice young ones from her, which brought two dollars and fifty cents apiece right at home. I am raising another sow this year, which ought to bring pigs next spring. These two, with a thoroughbred Berkshire male, give me a right nice start for next year. By having a pasture for them to run in, the expense of feeding is reduced to a very small item.

MRS. H. D. ANDERSON, South Carolina.

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Mrs. O. W. E., Kentucky.

Feeding Poultry

I am a small woman, and I live on a small farm, raise poultry in a small way, but for my small labor I reap bountiful rewards. I devote a great deal of time to my chickens. I have no brooder or incubator, but just raise chickens in the plain, old-fashioned way. I begin setting hens in January and quit in August. The first chickens, of course, require lots of attention. I have sold fifty-four young chickens, and they brought me twenty-four dollars. I sold eggs to the amount of forty-two dollars and fifty cents, hens to the amount of eleven dollars and fifty cents, a total of seventy-eight dollars. I used to keep from forty-five to fifty hens through the winter, and from twenty to twenty-five through the summer, and feed them the year round. In winter, for their morning meal, I give warm dough, cornmeal and weak bran, mixed with table scraps, and two or three times a week give a special poultry food. This is the secret of the well-filled egg basket and bright, healthy fowls. For their evening meal I give warm corn, wheat screenings, lean meat, etc., and give them my warm dish water at morn and noon; boiled milk mixed with red pepper is also good to warm up the hens on a cold morning. I give special attention to my hens in winter, for that is when eggs are in such demand.

I have two Jersey cows, and sell butter the year round. I make from one dollar and fifty cents to two dollars on my butter each week, and this, with my egg money, makes me feel that I am bearing my part of the burden. Lots of work is required, but I enjoy it; and also enjoy the value received each week.

MRS. R. I. WADE, Tennessee.

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Clothes for the Boarding-School Girl

By Grace Margaret Gould

PERHAPS the most important of all the boarding-school girl's dresses are her shirt-waist suits. The plainer these most useful school dresses, the smarter they are. However, to make them look their best they need a new touch or two—something to give them a bit of originality. The design for a shirt-waist suit shown on this page is sure to appeal to any young girl. The feature of the waist is the tabs which are joined to the right front. One buttons on the right side and the other buttons over on the left. They are made of contrasting material and give the waist a very smart style.



No. 992—Tucked Waist—Low or High Neck
Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, four yards of twenty-two-inch material, or three yards of thirty-six-inch material, with one half yard of lace for trimming

No. 993—Full Skirt With Tucked Flounce
Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, seven and three fourths yards of twenty-two-inch material, or five and three fourths yards of thirty-six-inch material

ONE or two gowns at least for dress-up occasions should form part of every boarding-school girl's wardrobe. These dresses should be planned most carefully. It is a great mistake for a girl sixteen, even if she does happen to think herself a full-fledged young lady, to dress as if she were one. Her evening gowns should be simple in design and light in color. There are any number of good materials to use which are so varied in price that they meet the need of every one's pocket-book. Batiste, albatross and challie each come in attractive delicate evening shades. Silk voile, messaline and taffeta are also to be recommended for a dress of this sort, if one cares to pay a little more money for the material.

The design shown in the above illustration makes a very charming little costume. Tucks are a feature of the waist and the flounce, which is joined to the lower edge of the full skirt. The fancy yoke, which may be of flowered ribbon, lace or filet net with an embroidered silk design, may be cut with a pompadour neck or made high, and then finished with a standing collar.

No. 997—Tailored Shirt Waist With Front Box Plaits

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, three and one fourth yards of twenty-two-inch material, or two and one fourth yards of thirty-six-inch material, with one half yard of contrasting material

No. 998—Nine-Gored Skirt

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, six yards of twenty-two-inch material, or four and three fourths yards of thirty-six-inch material



Numbering from left to right, Nos. 996, 999 and 1000, 997 and 998



No. 994—Shirt Waist With Buttoned-Over Tabs

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, two and three fourths yards of twenty-two-inch material, or one and three fourths yards of thirty-six-inch material, with one fourth of a yard of contrasting material for trimming

No. 995—Five-Gored Skirt With Box-Plaitted Back

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, seven yards of twenty-two-inch material, or five yards of thirty-six-inch material



No. 996—Long Double-Breasted Coat

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, five and one half yards of thirty-six-inch material, or four and one half yards of forty-four-inch material, with three eighths of a yard of velvet for trimming

THE long coat and the coat suit are both necessary to the boarding-school girl. Cheviot cloaking is a good material for a long every-day coat. Reversible cloth is also to be recommended, as well as covert and kersey.

Such materials as serge, worsted, cheviot and fancy suitings are all excellent for the skirt-and-coat suit, which is now a very necessary part of every young girl's wardrobe. If a dark color is chosen, such as navy blue or deep brown, a pretty trimming idea may be introduced by using a touch of gay plaid to bind the collar, edge the cuffs and pockets, and to use as a band on the skirt. The plaid should be cloth rather than silk.

A particularly good-style skirt for a coat suit is the band-trimmed kilted skirt shown on this page. The plaits turn back, forming a box plait in the center front. The fastening is at the back under inverted plaits. The lower part of the skirt is finished with a hem and a band, the band being headed with the plaid.

How to Order Patterns

We will furnish a pattern for every design illustrated on this page. The price of each pattern is ten cents. In ordering, be sure to mention the number of the pattern desired and the size required. Send money to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Write for our new catalogue; sent free on request.

No. 999—Semi-Fitted Three-Quarter Coat

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, five and one fourth yards of twenty-two-inch material, or three and one fourth yards of thirty-six-inch material

No. 1000—Band-Trimmed Kilted Skirt

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, eight yards of twenty-two-inch material, or six yards of thirty-six-inch material



Numbering from left to right, Nos. 992 and 993, 994 and 995

Miss Gould's Dressmaking Lesson

Explaining in Detail How to Make One of the Newest Box-Plaited Skirts

SOME SMART FALL WAISTS

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Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

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When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.



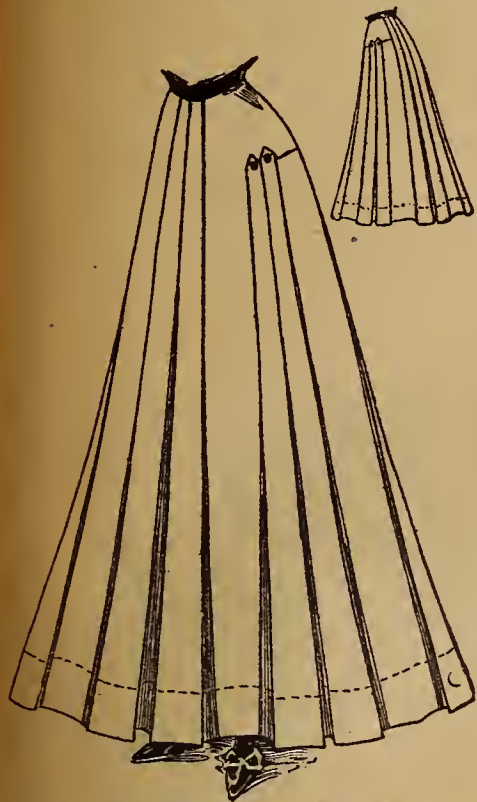
No. 891—Plaited Shirt Waist With Tab Yoke

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one fourth yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material

THE box-plaited and the kilted skirts are to go right on being fashionable this fall. In fact, they are to be more the vogue than they have been. The very earliest designs in fall walking skirts will show many variations of these two-plaited ideas. Skirts that are really walking skirts clear the ground from three to five inches and have the smartest sort of a flare at the lower edge.

One of the new varieties of the box-plaited skirt is shown on this page—Box-Plaited Skirt With Side Yoke, No. 977.

One illustration on this page shows the most economical way of placing the pieces of the pattern on material forty-two inches wide. It will be noticed that the front gore, side and back gores, also the belt, are cut out when the material is folded. To cut out the plaited side portions, open the material out flat, pin two widths to-



No. 977—Box-Plaited Skirt With Side Yoke

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, eight and one fourth yards of twenty-seven-inch material, or five and one fourth yards of forty-two-inch material.

The price of this pattern is ten cents. Send order, giving the number and waist measure, to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City

gether, and then cut out these sections. The pattern is wider than the fabric, so the corner pieces must be cut out of the material that is doubled (see illustration), and then joined neatly to the side section before the pattern is removed.

Unless your material is exceptionally wide there is piecing to be done on almost every skirt, and the seam should be arranged to come where it will show the least. When material has no nap nor "up and down" the gores of the skirt may often be reversed and arranged to fit into each other in such a manner that fully a yard of material may be saved.

Mark all the perforations in the skirt carefully and cut out the notches before removing the pattern from the material. The first step in making the skirt is to join the gores according to notches.

Finish a placket at center back seam as far as notch.

Form the box plaits in the skirt by bringing the corresponding lines of triangle perforations together. Pin securely and then baste on these lines. The box plaits may be stitched down from six to twelve inches if desired. It is an ex-

cellent plan to stitch them if the material is wiry. Open the box plaits out flat, with the seam at the center of each plait on the under side. Where the box plaits have been opened out flat it is well to baste them about three eighths of an inch in from each edge and then press them. If it is more becoming to the individual figure to have the plaits in the front and back gores very flat they may be stitched near the edge to any desired depth. The stitching forms a trimming as well as being useful to hold the plaits in position.

The adjusting of the box-plaited side section to the yoke is one of the most important steps in the making of this skirt, and the instructions should be followed very closely. Turn in the upper edge of the plaited side section three eighths of an inch. Finish the point of each box plait carefully and press at the top before adjusting it on the yoke. Arrange the box-plaited side section on the yoke, bringing the upper edge of the side section to the line of small round perforations on the yoke. Baste first and then stitch securely. The point of each box plait may be buttoned up on the yoke. Work the buttonholes in the points so the upper edge of each hole comes within half an inch of the point. Sew buttons on the yoke half an inch from the point in the perforated line. Then button the box plaits on the yoke.

The box-plaited side section must be joined to the skirt before the box plait

on the front edge of each section can be formed properly and basted to lie flat. The seams connecting the plaited section and yoke to the sides of the back gores cannot be closed until the side section is joined to the side gore and yoke. After these two pieces are joined they can be joined to the back gore and the plaits in the back gores pressed to position.

Bind the seams of silk and cloth skirts with single seam binding. When the skirt



No. 873—Plaited Shirt Waist

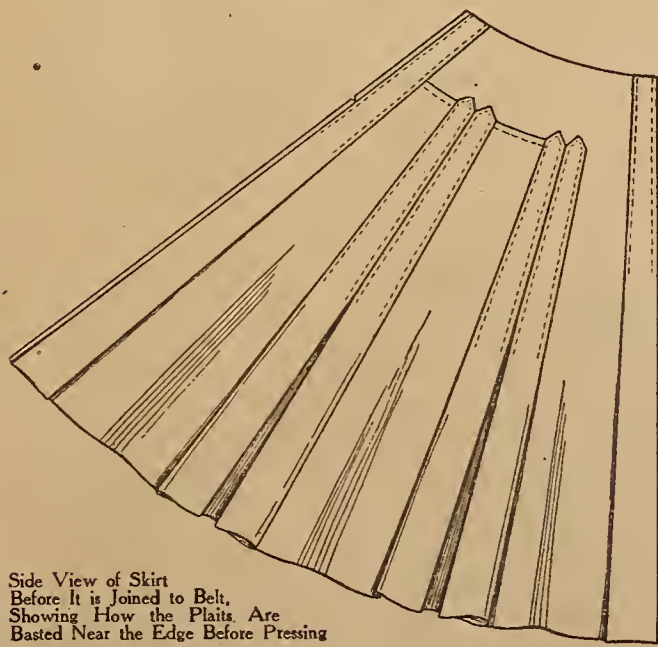
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-seven-inch material, or three and one half yards of thirty-six-inch material

is made of linen, cotton cheviot, piqué or any of the wash fabrics that are not transparent the seams may be bound with fine linen tape or bias lawn seam binding that may be purchased at any notion counter. Some dressmakers prefer binding with bias strips of self fabric. These strips should be cut three fourths of an inch wide. When the material is transparent, French or double seams may be used, or single seams finely overcast.

One illustration on this page shows half the skirt open flat before it is joined to the belt.

After the plaits and seams have been properly pressed, join the skirt to the belt as notched, and fasten it at the back. When the skirt has been adjusted on the band and fitted it should be turned up around the bottom. Some of the plaited skirts for fall are finished with deep hems; others are cut off the required length and faced.

This skirt pattern is thirty-nine inches long and is made to be faced. If you desire a hem on the skirt, add from two



Side View of Skirt Before It is Joined to Belt, Showing How the Plaits Are Basted Near the Edge Before Pressing

No. 869—Waist With Pompadour Bib

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of twenty-two-inch, or two yards of thirty-six-inch material, with one yard of all-over lace



to four inches and turn the hem up, basting it and arranging the tiny plaits at the top according to the directions given in the March dressmaking lesson. Some amateurs find it much easier to face a skirt than to turn up a hem, and it is for these needlewomen that the following instructions are given.

Turn up the skirt the desired length—three or four inches from the ground is none too short for the fashionable skirt.

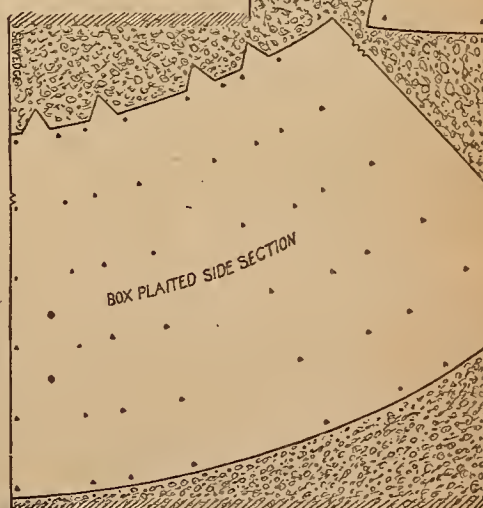


How Braid and Facing Are Used to Finish the Lower Edge of a Skirt

Turn the skirt wrong side out, baste one fourth of an inch up from the lower edge, and cut off the surplus material leaving only three eighths of an inch for the seam. Press the skirt flat. If there is to be a braid worn to protect the edge of the skirt it should be applied with a short running stitch, not more than one eighth of an inch of braid extending below the edge of the skirt.

Now spread the skirt out on a flat table or sewing board and fit the facing on to conform with the shape of the lower part of the skirt. Shape and baste it to fit smoothly around the lower edge first. Then cut the facing off at the required depth (from three to five inches), turn in at the upper edge, and baste flat. Stitch the upper edge of the facing. Use one or more rows of stitching. The lower edge of facing should be hemmed to skirt.

If preferred, omit braid and apply facing after turning up skirt. If skirt touches, put the braid on the outside of facing, as it is easier to renovate.



How the Pieces of the Pattern Are Placed on Material Forty-Two Inches Wide



No. 886—Tucked Tailored Shirt Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material



No. 947—Box-Plaited Shirt Waist With Revers

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material, with three eighths of a yard of tucking for chemisette

No. 952—Shirt Waist With Vest Lapels

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one fourth yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material



No. 868—Paquin Vest Waist

Pattern cut for 32, 34 and 36 inch bust measures. Quantity of material required for medium size, or 34 inch bust, three and one fourth yards of thirty-six-inch material, or two and one half yards of forty-eight-inch material



The Oldest Mill in America is Still in Operation

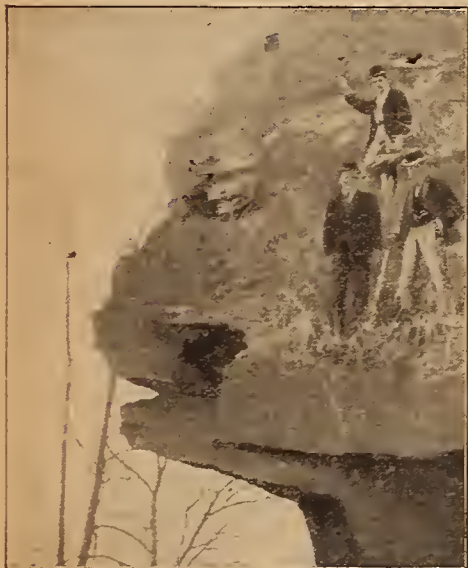
IT is an interesting fact that there is in New London, Connecticut, a grist mill still in operation that was built more than two and a half centuries ago. It is by far the oldest mill in the United States, and is known as the old John Winthrop Mill, for the reason that the town co-operated with John Winthrop in the building of the mill. On November 10th in the year 1650 a town meeting was held in New London, and the ancient records tell us that it was for the purpose of "arranging a system of co-operation with Mr. Winthrop in establishing a mill to grind corn."

Fifteen of the "good men and true" responded to the call of this meeting, and it was voted that the landowners should be at "the charge of making the dam and heavy work belonging to the millne." Those who are clamoring for "simplified spelling" will be interested in knowing that "milne" was the way New-Londoners spelled "mill."

We find by the carefully preserved town records of New London that six men were appointed a committee to build the dam, and six other men were appointed to raise a sum sufficient to defray the cost of building the mill. It should be added that New London was at this time the town of Pequetoet, and the town made something of a monopolist of John Winthrop by passing the following vote:

"No person shall set up any milne to grind corn for the town of Pequetoet within the limits of the town, either for the present nor for the future, so long as Mr. John Winthrop, or his heirs, do uphold a milne to grind the town corn."

It is said that there is also on record a statement to the effect that John Winthrop had a grant from Queen Anne to build this mill and to run it so long as "trees grew or waters ran." This John Winthrop who became a monopolist so early in our country's history was the eldest son of Governor John Winthrop of the Massachusetts Bay Colony, and who himself became governor of the Connecticut colony in the year 1657. It was in this



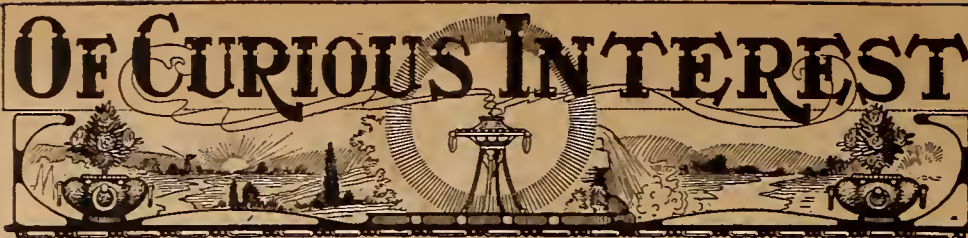
PROFILE ROCK—A UNIQUE FORMATION ON A MISSISSIPPI BLUFF

year that Governor Winthrop removed his residence from Pequetoet, or "Fair Harbour," as it was sometimes called, and went to Hartford to live. John Winthrop left many reminders of his residence in New London, but this old mill is the sole survivor of them all. This is because it was such a well-built structure, with massive hand-hewn timbers put together with great care. There is a cap piece of granite over the door, with the date "1650" chiseled in it. During the not infrequent Indian wars following the settlement of Connecticut the old mill was used as a fort by the inhabitants.

John Winthrop, the miller, was a man "of parts" and was one of the foremost men in the community. When he was not attending to the grinding of the corn in his mill he was practicing medicine, and he was skilled in a number of arts. That he was made governor of Connecticut is proof of his popularity and of his unusual ability.

When John Winthrop went to Hartford as governor of the colony he leased the mill to a man named James Rogers, who was a baker. Rogers had not the popularity of John Winthrop, and lawsuits and counter suits arose over his possession of the mill. Rogers seems to have come out triumphant, for he retained the mill until his death in 1687. He left five sons and two daughters, and it is said that there are far more of his descendants in the New London of to-day than there are of any of the other original settlers. Many generations of the Rogers family have owned the mill, but it is now owned by a man named Smith, and its wheels still go around grinding the grain brought to the mill.

John Winthrop, the original owner of



the mill, was a thrifty man, and he left a large amount of real estate in the colonies of Connecticut and Massachusetts. He was buried in the Winthrop tomb in the King's Chapel burying ground in Boston,

other at the slightest impulse. This accounts for the rapidity with which the hills travel over the desert.

As for the singing, the reason is by no means so obvious, but the theory now ac-



FAMOUS AS THE RETREAT OF ACQUILLA RODGERS, ONE OF AARON BURR'S ARCH CONSPIRATORS

and this tomb is within a few yards of Tremont Street, one of the busiest of Boston thoroughfares. The shadows of Boston's City Hall fall over the tomb. His line became extinct with the death of a granddaughter some years ago.

Sandy Beaches That Sing and Bark

HAVE you ever heard sand hills sing and bark? Well, there are sandy beaches that do just that. The sounds are indeed a puzzle to those who hear them, and indeed are to the world of science.

Some of the so-called "singing sands" may be found in the neighborhood of Manchester, New Hampshire, but among the most famous in the world are the "barking sands" on the island of Kauai, of the Hawaiian group. The Baltimore "Sun" says that these sands form large conical dunes along the shore, some of them as much as seventy feet in height, and as the grains roll down the slope, impelled by the wind, they emit a curious sound that is not unlike the muffled barking of a dog.

In the Colorado Desert, which is so celebrated for its extraordinary and deceptive mirages, similar sounds occur in hills, which, being of a non-sedentary disposition, are continually traveling hither and thither over the vast plain of clay. Of course it is the wind that moves them, and the silicious particles of which they are composed give out an audible humming or singingsound when a strong breeze is blowing.

By examining these particles under a magnifying glass it has been ascertained that nearly all of them are perfectly spherical, so that they roll upon each

cepted is that it has something to do with an exceedingly thin film of gas covering the grains. By and by, if the sand is gathered and taken away, it loses its vocal properties.

The singing sands of the island of Kauai are perhaps the most remarkable of all. When a small quantity of them is taken up and clapped smartly between the hands it gives out a sound so shrill as to be described as a hoot.

Again, if a shovelful be put into a bag and slammed about with violence, the barking noise becomes surprisingly loud. The Hawaiian natives believe that the sounds are made by the ghosts of dead people, the dunes having been used since time immemorial as burial places.

John Eliot's Chair

THIS massive oak chair, three hundred years old, was the property once of "Apostle John Eliot." He was a missionary to the Indians of New England in the seventeenth century, and besides traveling and living with the savage tribes he performed the task of translating the Bible into Indian language, so as to better spread the gospel tidings among them. This chair was too heavy to have been carried about. It was probably left at some headquarters while he was on his long and lonely journeys. New England was spared many wars by the "apostle's" efforts, and his chair is a prized relic by the Eliot Church of Roxbury, Massachusetts. This congregation also own the Bible and Psalm Book that Eliot used in his ministrations. Eliot died in Roxbury in 1661.



WINTHROP MILL, NEW LONDON, CONNECTICUT, THAT HAS BEEN IN OPERATION FOR MORE THAN TWO AND A HALF CENTURIES

Luxuries That Were Costly

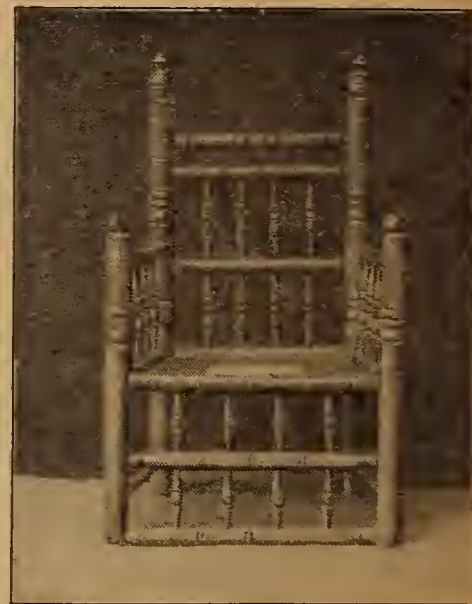
THE South African conquest cost Great Britain a cool \$1,200,000,000, and the Boers must have spent a sixth as much more in defending their little republics. To get a foothold in Manchuria and drive back her Russian armies took a tidy \$1,100,000,000 from the Japanese treasury, while ambitions for a greater empire cost the czar \$1,500,000,000. In these two wars, not counting the many millions which Germany is still paying out in Southwest Africa, the stupendous total of \$4,000,000,000 was expended.

Historic Cabin

PROBABLY the oldest log cabin in the state of Indiana is located about two miles south of Vallonia, Driftwood Township, in Jackson County, built in 1807, being therefore one hundred years old, and from the old settlers in that locality we learn that this house was built by one Aquilla Rodgers, who was one of Aaron Burr's conspirators. There is no doubt about this statement, according to the assertions of people now living, who were given the information by their parents.

Rodgers is said to have been for many years the first and only white man in that part of the country. While he was a man of much intelligence, his adventurous nature caused him to become entangled in the web woven by the unscrupulous Burr, who, it will be remembered, with one Harman Blennerhassett, an Irish exile, undertook to organize a military expedition, invade Mexico, wrest that country from the Spaniards and establish a Southwestern Empire, with himself as Dictator, when, by the proclamation of President Jefferson, the military preparations were broken up.

In making his escape from Blennerhassett Island Rodgers came down the Ohio River in a canoe, and landed at what was then known as Charlestown Landing. Making his way through the forests, having many narrow escapes from capture by the Indians, and many thrilling adventures with wild animals, he finally reached this spot, where he erected his



JOHN ELIOT'S CHAIR—THREE HUNDRED YEARS OLD

cabin. It was certainly an ideal place for one who might at any time be compelled to dodge the long arm of "Uncle Sam"—the huge hills on the one side, where he could flee at a moment's notice, on the other side the lowlands, a great deal of which was at that time an immense swamp. The forest furnished him plenty of food in the way of game and the various kinds of berries and fruits; the peaceful Muscatatuck and White rivers flowing near furnished his table with fish; a bubbling spring flowing constantly near his door gave him an abundance of cool, pure water, so he was content to remain in hiding for many years.

The present owner of the cabin and many old people of the community claim that Burr visited Rodgers at this place after his memorable trial.

Rodgers is said to have moved northwest about the year 1820, where he married and reared a family, some of whom are still living and are very intelligent, standing high in the estimation of the people of their community.

The cabin is prized very highly by its owner.

GEO. R. CAPOOT.

Profile Rock

WE show on this page a picture of the remarkable freak of nature known as the "Profile Rock." This formation is part of the Mississippi bluffs one and one half miles north of Lyons, Iowa. The distance from the bottom of the cliff to the ledge that the men are standing on is one hundred feet. The photograph was taken by Mr. Henry E. Harm, on Rural Route No. 2, Lyons, Iowa, and sent to the Editor of Curious Interest page.

For the World's Peace

THE foundation stone of The Hague Palace of Peace, the gift of Andrew Carnegie, was laid the afternoon of July 30th, 1907, and the event was one that the whole world looked upon and applauded.

The ceremonies were opened with music and singing by several choral societies, after which M. A. P. C. Van Karnebeak, president of the Carnegie foundation committee, delivered an address, in which he paid a tribute to the "generous man whose name is engraved upon the first stone of the edifice due to his munificence." The thoughts and thanks of every one there went out, the speaker said, to Andrew Carnegie in his Scottish home. Then, rapidly sketching the history of the Carnegie donation and describing the plans of the Peace Palace, which it is proposed to ask the powers that have signed The Hague convention to furnish, M. Van Karnebeak concluded:

"This is to be a place of international justice, founded as an outcome of the need of every civilized community to institute the rule of right for the rule of might. In this palace no one will be stronger or no one weaker than the other, and no other blade, except the sword of justice, will be placed in the scale. The tower of the palace will point to the stars, indicating the ideal of our efforts."

In the speech that preceded the actual laying of the stone M. Nelidoff expressed the gratitude of the peace delegates to the munificent donor of the palace and to the Netherlands government for the gift of the land upon which the splendid edifice is to be erected. The palace, he said would be a monument to the first efforts made by the governments of the world to preserve to the nations the benefits of peaceful development by seeking to prevent wars.

The new palace of peace will be built on the plan of the Brussels Palace of Justice, and the estimated cost is \$1,640,000. Five years at least will be required to complete it.

Josh Billings' Philosophy

AZ SKARCE az truth iz, the supply haz always been in excess ov the demand.

Death az often comes too late az too soon for the children ov man.

Politeness, even if it iz artificial, iz the most respectable fraud there iz.

If a man will watch hiz weak points, his strong ones will take care ov themselves.

Mi dear phellow, learn this early, yu kant hold a man long bi the buttonhole, and yu kant hold him the seckond time, at all.

The weakest ov all men in the world iz the one who never haz been tempted, and thinks he kant be.

The two great mistakes in life that most ov us make iz betting on ourselves, and betting against the other phellow.

Too mutch powder and two little shot iz a bad average. The discharge iz apt to kik us over, and the shot skatter so mutch that they hit nothing.

Notoriety iz one of the cheapest articles in market; all a man haz got to do iz to steal a horse, git ketched at it, go to state prizon, and be notorious for the next three years.

The Fellowship of Suffering

TROUBLE brought to our own door often points the way to noble Christian duties that perhaps would never have come to our observation. A beautiful example of this kind is told by the "Youth's Companion."

"Oh, God, how can I bear it? What have I done to merit it? How can it be right that I should be so afflicted?"

So, on her knees, cried an agonized mother when informed that her daughter must go to the hospital for a dangerous surgical operation.

Out of the silence came no answer, and the only relief was in the swift, necessary preparations for the departure of the young woman.

The next day the mother sat listening for the ring of the telephone, yet starting every time it rang, in



Love and Labor

"Labor is the house that love dwells in."—Russian Proverb.

How shall I love my fellow-men?
With ineffectual talk?
By dropping honey from my pen,
And sighing as I walk?

Nay, rather love thy neighbor
By working hard and well,
For in the house of labor
It pleaseth love to dwell.

Love him with hammer, saw and knife,
With ax and pick and spade.
Love him and doubly bless his life
With all thy hands have made.

Thus loving each his neighbor,
Bear one another's load,
For in the house of labor
Love maketh her abode.
—From "Swords and Plowshares," by Ernest Crosby.

Observing the Sabbath

"BELIEVING, as we do, that the great principles which underlie the due observance of the Lord's Day are public worship and rest, we resolve to do all that we can to discourage, so far as possible, such employments on the Lord's Day as would prevent ourselves, our servants, or others for whom we are responsible, from being able to carry out these principles."

The above is the resolution adopted by the Sunday Lay Movement in England, and is being widely circulated in America by the Woman's National Sabbath Alliance. The impulse came from a desire on the part of the Englishwomen to try and influence people not to give luncheon and dinner parties on Sundays, so that their servants might enjoy a day of rest and opportunity for worship, which is their due. The Alliance is doing all in its power to secure signatures to the resolution. Any one who may desire to add his influence can do so by clipping the resolution, signing the same, and sending it to the Alliance at Room 1007, 156 Fifth Avenue, New York City.

The Parents' Part

THERE is a part of the child's education that depends upon the parents, and we often wonder how many fathers and mothers ever realize the importance of the religious side of the child's life.

"The King's Own" tells a pretty little example of a mother's teaching:

"Mother, I don't see why you have me learn a psalm every month," said Eva Preston; "none of the other girls do, and you can always read them."

Her mother was silent for a few minutes, and then she said gently, "You don't see the use of learning them now, dear, but you will when you are a little older."

The next day was Sabbath. A stranger talked to the Sunday school. He said: "I work among the poor children in a big city. I have many friends among the newsboys. One day one of them—Dave Herbert—was run over by a horse and wagon. He was carried to a drug store near by, to wait for the ambulance to carry him to the hospital. The doctor and I were with him, and a crowd was in the store. The boy was a brave little fellow, but he suffered terribly. All at

once he said, 'If I could hear about the shepherd I could bear it better.' I knew what he meant, for I had told them about King David's beautiful psalm at the mission school. I said it now over and over, and I wish you could have seen the looks in his face as he listened. That little rough newsboy said after me, 'And I will dwell in the house of the Lord for ever.' Before the ambulance came, Dave had gone to the Lord's house above. I tell you this dear children, because nowadays so few of us learn the Scriptures by heart. We don't think it necessary. But I know it is. I wonder, now, if any child here can repeat the twenty-third psalm?"

There was a long pause, but no one stirred. Then Eva Preston stood up and repeated it very clearly and correctly.

As she finished, the children—and even her teacher—forgetting the place, softly clapped their hands.

The minister lifted his hand to check it. "Thank you, my dear," he said to Eva; "you have a gift no one can take from you."

The Tongue

GOD made the tongue, and, since he never made anything in vain, we may be sure he made it for some good purpose.

"What is its good purpose?" said a teacher one day.

"He made it that we may pray with it," answered one boy.

"To sing with," said another.

"To talk with people," said a third.

"To recite our lesson with," replied another.

"Yes, and I will tell you what he did not make it for. He did not make it to scold with, to lie with, or to swear with. He did not mean that we should say unkind or foolish or impatient words with it. Now think every time you use your tongues whether you are using them in the way which pleases God."—Children's Visitor.

Don't Stand Still

THE fellow who succeeds in life is the fellow who does what he has to do well, and "goes ahead and does it." The "Religious Telescope" comments that the man who does not do anything in a small place because he is waiting for a great one has a long time to complete his present job. He is related to the negro whose master was so easy on him that he gave him twenty hours to do a day's work in. The chick in the shell becomes the chicken in the poultry yard by outgrowing the confines of its prison, and breaking those limits all to pieces. Should it say to itself that it does not intend to kick or pick because it hasn't a position suited to its character and powers, it would soon be past picking and kicking. Just so with the man in the small place. If he refuses to work there, he will soon reach a condition in which he is not able to work anywhere. Promotion comes by filling the present position entirely full and extending over the edges. No man is fit for a big thing who considers himself unfit for a little thing.

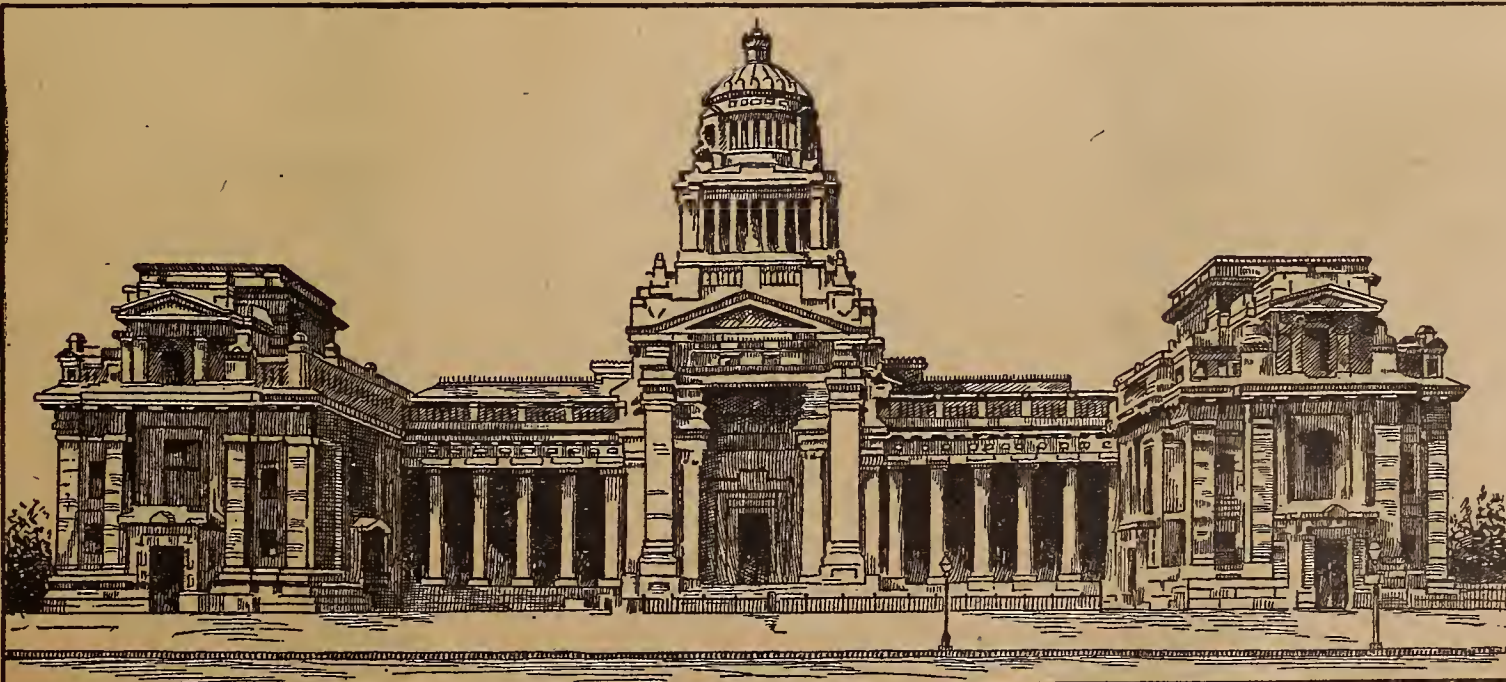
A Mother's Counsel

THE great men of the world have generally owed much to the character and training of their mothers, truthfully says "The Evangelical." If we go back to their childhood we see there the maternal influences which form the aims and habits of their future life.

Bayard, the flower of the French knighthood, the soldier without fear or reproach, never forgot the parting words of his mother, when he left home to become the page of a nobleman. With all the tenderness of a loving heart, she said:

"My boy, serve God first. Pray to him night and morning. Be kind and charitable to all. Beware of flatterers, and never be one yourself. Avoid envy, hatred and lying, as vices unworthy of a Christian; and never neglect to comfort widows and orphans."

When Bayard was foremost in battle, confessedly the bravest warrior in the field, or when, in his own great thirst, he was giving water to a dying enemy, he was only carrying out his mother's counsel and striving to be worthy of her name. The memory of a mother's love is a talisman against temptation and a stimulus to a good life.



THIS IS HOW THE HAGUE ARBITRATION PALACE, THE GIFT OF ANDREW CARNEGIE TO THE WHOLE WORLD, WILL LOOK WHEN COMPLETED

In the Land of Broken Dolls

BY FANNIE M. PENDLETON

OF COURSE Alice jumped. So would you if the door had closed and shut you up in a dark closet under the stairs. She felt for the knob, but she couldn't find it. She called, but no one heard her. Then she sat down in a little heap on the floor and set her small teeth quite hard. No, she wouldn't cry—she just wouldn't—not if she had to stay there all day. Suddenly she remembered that Dorothy Maud was somewhere in the heap of toys on the floor, and Dorothy Maud would be a great comfort, she was sure.

She was feeling about for the doll, when she heard a little noise directly overhead, then a tiny trap door was raised, and a little man looked down at Alice. He was a very strange little man, for his body looked exactly like the glue bottle on the kitchen shelf. Alice stared at him. Sure enough, she could see the words "Royal Glue" across his chest, and his arms seemed much more like brushes than anything else.

"Hello, Alice," said the queer little man. "I'm Stick-em, the friend of the dolls, and if you want to find Dorothy Maud you had better come with me."

"How can I?"

"Oh, that's easy. Just wait till I let down my ladder. Now climb up."

When Alice reached the top and climbed through the trap door, a strange sight met her eyes. On every side, as far as she could see, were long rows of doll houses, and they were of all sizes and colors and shapes. Then Alice noticed one very odd thing: There was a great crowd of dolls on the corner, and they were all talking in a very excited manner, but not one of them was whole. Some had lost arms, others had only one eye, and several were being wheeled about in invalid chairs. They were a pitiful set. At that moment one of them caught sight of Alice and Stick-em.

"Hurrah," cried she, "he's brought a careless child!"

Immediately a battered doll with no nose mounted a platform and began to speak.

"Dolls and pieces of dolls," he began in a loud voice, "now is the time for revenge. The enemy approaches. It is a careless child. For many a day we have suffered in silence. Now let us act! We have lost arms, legs, even noses, and have not complained. The ground has been strewn with sawdust, but now the time is come. Let us spill her blood, and thus blot out the memory of our wrongs!"

The dolls went wild—they yelled, they cheered, they ground their teeth with rage. Then Noah arose to restore order.

"If you have suffered," said he, "I have suffered, too. My animals have lost their legs and horns. Even their tails are a thing of the past. But do not let us be unjust. Let us give her a fair trial."

At last Noah carried the day. He was chosen judge, twelve dolls made up the jury, and the trial began. All the dolls that Alice had ever owned stood in line and waited for their turn to speak. They were a sorry-looking lot. The first one was Dinah, a black doll whom Alice had never liked.

"Bruders an' sistahs," she began, "dis chile am de very ole mischief. She busted ma pore nose, she buried me in a hole in de groun' an' she threw me at de cat."

Here Alice burst out laughing, for Dinah looked so very comical with a white spot where her nose used to be. This made all the dolls very angry, and



they told so many dreadful things that Alice had done that the child hung her head.

At last came Dorothy Maud. Now Alice had always been very fond of Dorothy Maud, but of course she was rather the worse for wear. She began to speak in a sweet, low voice, and all the dolls pricked up their ears, for not one word did she say against Alice. At last one doll could stand it no longer, and she burst out, "And where is your lovely hair, Dorothy Maud?"

"It grew thin because it was kept so neat," was the answer.

"What has become of your rosy cheeks?"

THE PUZZLER

Names of Girls Concealed

Can you "figure out" the names of girls that are veiled in the twelve lines below? All the names are those in common use:

1. He had a very bad attack of fever. 2. Do you call this a Belladonna lily? 3. It was a camel I agreed to drive. 4. He was well enough when I saw him. 5. I went to see him make some butter. 6. His fiery barb Arabian deserts knew. 7. Prim art has dictated that edifice. 8. He would not pass us any more. 9. You may tell anybody you please. 10. He descended from Aryan ancestors. 11. I do not call Julius Cæsar a hero. 12. I prefer Charlemagne so much more.

Charade No. 1

A friend and I were weather bound,
For TOTAL was the night,
The rain without made mournful
sound
Within the fire and all around
Were cheerful warm and bright.

To pass the time in pleasant way
My friend suggested chess;
And as we were compelled to stay,
I willingly agreed to play,
Quite hopeful, I confess.

The game to FIRST I did my LAST,
But unpropitious fate
My chances to the winds did cast,
And long before an hour had passed
My friend announced "check mate."

Answer to puzzle in the September 10th Issue: Goose, Bittern, Cuckoo, Duck, Lark, Quail.

Charade No. 2

I have an old uncle, a miserly man,
Who has lately been second in health.
But those who to aid him would do
what they can

He abuses for seeking his wealth.
On our meeting last week, "Well,
Uncle," said I,

"I do hope you are better to-day."
With a withering scowl and a dry
FIRST reply,

He cried, "Hypocrite, out of my way.
I am sure it would give you the great-
est of joy

If this illness my life were my
WHOLE;

But I've drawn out my will and you'll
find out, my boy,

Not a cent will you ever control."

"They were washed off by kisses," replied the doll gently.

Then she went on and told so many nice things that Alice had done that the dolls were silent.

"You," she said, pointing to several, "are put to bed every night. You had a new ball dress only last week. You were allowed to give a party where you had real tea. And now," she went on, "it is not our little mother's fault that we are not made to last. Which had you rather do, I ask—wear out in giving pleasure to a little child, or sit for years on a shelf, where you will not be broken, it is true, but where you will not be loved, either?" There was a great silence, and Dorothy Maud sat down.

The dolls were thinking deeply, and for a time no one spoke. Then one by one they told of Alice's kindness to them, until the tears stood in the child's eyes. At last she could stand it no longer.

"I'm so sorry," she said, "but I did not think you were alive. I'll tell you what I'll do. I'll ask every little girl I know to come to my house and bring her broken dolls, and you shall all be mended."

Cheer after cheer went up while the dolls crowded around Alice. "Let us fire the cannon," cried they. A moment later there was a loud report.

Then Alice found herself seated on the floor of the stair closet, and she was looking up into the face of her mother, who had just opened the door.

A History Party

BY MRS. M. SHERWOOD

THE articles necessary for a history party are blank books, scissors, paste, brushes and some old magazines. Perhaps I ought to add that a sense of humor and some imagination are excellent aids in this unique entertainment. It gives the most fun and pleasure for a small expenditure of time and money of any game that I know of. A little preparation is necessary. On the outside of each book print or write or paint the guest's name. Have a book for each visitor. On the first page write "The Pictorial History of John Smith, or Mary Davis," or whatever the name chances to be. On the next page, across the bottom of the sheet, inscribe "His Earliest Portrait." On the next, "Some of His Youthful Playmates." Then, "His Childhood Home," "His Pets," "His First Love," "His Early Environments," and so on up to "His Latest Portrait." When one gets to work at the history, all manner of odd and funny inscriptions will suggest themselves. At the end of the book leave a few blank leaves for the compiler to fill in and label as he may choose.

Give each guest a book, a pair of scissors, a paste dish and a brush and some old illustrated magazines. Then let them go ahead and fill the book with pictures clipped from the pages of the magazines.

You can either request the workers to keep their work unseen by others, so it may be a surprise, or allow each one to look on the other's book to help the idea develop. It will be a merry gathering from the

start, and it is well to have the sexes pretty evenly divided, and to give the ladies' history books to the gentlemen to make up, and vice versa.

The baby advertisements offer excellent chances to those needing cuts for the first page. Some show great ingenuity in patching several pictures together, and thus making one interesting whole.

When the books are filled they are passed around and examined. A vote is taken as to which is the best one, and a prize awarded it. After examination the subject of each book receives it as a souvenir of what every one will declare was a jolly occasion.

An Honest Boy

MR. BLACK was waiting in the depot of a large city for his train.

A bright little boy stepped up to him, and said, "Shine, sir?"

"I want to have my boots blacked," was the reply. "I shall be glad to shine them, sir," said the boy.

"Have I time? I wish to take the New York train."

"No time to lose, sir; but I can do it for you before the train leaves."

"Certain of it?"

"Yes, sir. Shall I?"

"Yes."

In a second the bootblack was on his knees shining Mr. Black's shoes.

"Don't let me be left."

"No, sir, I will not," said the boy, working very fast.

"What is your name?"

"Bob Holmes."

"Is your father living?"

"No, sir; there is only mother, and—the train is going, sir."

Mr. Black took a silver half dollar from his pocket.

He handed it to Rob, who began to make the change.

Mr. Black stepped on the train, and before Rob could reach him with the money, the train had started.

Two years later Mr. Black went to the same city again. As he walked along the street near the depot, a boy stepped up and spoke to him.

"Were you ever here before, sir?"

"Yes, two years ago."

"Didn't I shine your boots for you at the depot?"

"Some boy did."

"I am the boy, sir. I owe you forty-five cents. Here is your money. I was afraid that I should never see you again."

Mr. Black was so pleased to find Rob such an honest boy that he went with him to see his mother. He told her that he should like to help Rob and send him to school. He gave Mrs. Holmes a comfortable home until Rob was through school, and then he was able to earn a good one for her himself.

—The Junior Herald.

A Few Guide Posts

A STUDIOUS son is a delight to his father. To keep the wisdom you already have you must have more.

One hour in the home with your books is worth two in the street.

You may think it is fun to do the thing which your teacher or parents tell you not to do, but while you are being reproved for it the other boys will think it is fun.—William J. Burtcher in American Boy.



Photo by Will G. Helwig

GEE! THAT'S SOUR



Photo by Will G. Helwig

WHO? THAT'S YOU

A \$1,500 GIFT TO YOU

Special Limited Offer---Don't Wait!

For a long time we have been trying to devise a plan which will save you money on your subscription to FARM AND FIRESIDE. That is why these offers are made to you for your benefit. *It doesn't make any difference whether you are an old subscriber to FARM AND FIRESIDE or not, we are going to let you take advantage of them just the same.* We are making these great offers for three reasons:

First—Because we are going to raise the price of FARM AND FIRESIDE before long. It costs a lot more to get out a paper like FARM AND FIRESIDE than it used to. Everything that goes into a paper is higher. We can't put off an increase in our subscription price much longer. We give you fair warning right now, and make you these offers purposely, so that you can save money and accept one before the price goes up!

Second—Because we want you in the FARM AND FIRESIDE family. It is worth something to both you and us to have you come in now, before the winter rush, while we can give you the service you deserve. People like you are the kind of subscribers we have and the only kind we want. The FARM AND FIRESIDE family is the best and happiest farm family in the world, and it will give you a hearty welcome. We want to get you there and keep you there. You are just our kind!

Third—Because in addition to wanting you in our family, and wanting to save you money, we want you to have something besides FARM AND FIRESIDE, that we believe should be in every American home. And we are going to give it to you *absolutely without cost* if you will accept one of the offers below. In this painting—one of the most expensive ever made in America—American art has reached its highest point.

We own the original painting and control its reproduction entirely. For the benefit of our big family we have had a special FARM AND FIRESIDE edition of the masterpiece reproduced in such a way that all the delicate shading and color values, all the deftness of technique and lightness of touch of the original painting have been preserved, and we are going to give these handsome reproductions to the readers of FARM AND FIRESIDE who accept one of these offers now.

Do not confuse these magnificent polychrome reproductions with any paintings or pictures ever offered before by this or any other publication. These reproductions would sell for from two to three dollars in any art store if we allowed them to be sold, *but you cannot buy them at any price!* They are for the FARM AND FIRESIDE family only, and the only way you can get one is to accept one of these offers now. Then you will get one *absolutely without cost!* These offers will positively be withdrawn. Don't wait until the price is raised!

THE ARTIST'S REPRODUCTION



"MOTHER AND BABE"

This is a picture of "Mother and Babe," the magnificent \$1,500 oil painting that we have had reproduced in beautiful polychrome especially for the members of the FARM AND FIRESIDE family. We want one of these handsome artist's reproductions to adorn the walls of every FARM AND FIRESIDE home. This painting is America's Masterpiece and one of the most beautiful paintings in the world. It is the work of Mr. Earl Stetson Crawford, who has already taken first prize in nine art contests. In fact, this painting itself took first prize in one of the largest contests ever held. There were over five thousand paintings in the contest, from all over the world, and the committee of award, headed by Sir Caspar Purdon Clarke, director of the Metropolitan Museum of Art in New York, decided that this painting of Mr. Crawford's was the best of the five thousand or more submitted. Mr. Crawford has studied under the world's best masters. He is one of America's most noted painters. Surely you want his greatest masterpiece in your home when it doesn't cost you a cent!

Look at the picture again. What prettier or more tender sentiment could be expressed in a painting than a mother with her baby in her arms longingly waiting at the window for the first glimpse of her husband as he returns home in the evening! No wonder the famous artists on the committee of award thought this picture one of the most beautiful they had ever seen! It is a masterpiece in every sense of the word—one of the world's greatest paintings.

REMEMBER THIS!

You cannot buy this masterpiece. You cannot buy even a reproduction of it for love or money. But you can get one *absolutely without cost!* by accepting either one of the two liberal offers on this page. Don't wait until they are all gone.

SEND YOUR SUBSCRIPTION NOW

What You Get

If you accept one of these great limited offers you will get

Farm and Fireside

—the greatest farm paper in the world—twenty-four times a year. Only one cent a copy.

FARM AND FIRESIDE is one of the "old reliable" farm papers. For over thirty years it has worked for the best interests of American farmers. It prints and circulates each month more copies than any other farm paper in America. It is the Giant of the Farm Press.

The Contributors

Among the famous men who are contributing to FARM AND FIRESIDE, in addition to Mr. Greiner, Mr. Grundy, and all the other well-known FARM AND FIRESIDE editors, are the following:

PROF. BAILEY, Dean of the New York State Agricultural College and writer of various books on agricultural subjects.

F. D. COBURN, Secretary Kansas Department of Agriculture.

EX-GOVERNOR W. D. HOARD, of Wisconsin, editor *Hoard's Dairyman* and Regent of University of Wisconsin.

PROF. G. I. CHRISTIE, of the Indiana Agricultural Experiment Station.

JOHN CRAIG, Professor of Horticulture, Cornell University.

CHARLES S. PLUMB, Professor of Animal Husbandry, Ohio College of Agriculture.

DR. H. J. WATERS, Dean of the College of Agriculture and Director of the Agricultural Experiment Station of Missouri.

DR. E. A. BRYAN, President of the State College of Washington and Director of the Experiment Station.

PROF. C. O. BULL, Assistant in Agriculture, University of Minnesota.

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THE GRANGE AND RAILWAY-RATE LEGISLATION

FOR twenty years the Grange has carried on a campaign of education favoring federal regulation, through a competent commission, of railway rates which will guarantee to each shipper the same price for the same service under similar conditions, and to the carrier a reasonable interest on his investment and profit for his initiative and business ability.

In 1904 President Roosevelt addressed a message to Congress in which he advocated the fixing of rates by the Interstate Commerce Commission, and punishment by fines and imprisonment for violations of prescribed regulations. The uncovering of gross abuses of power by railways and shippers, of secret rebates, overcapitalization, the diversion of funds derived from sales of stocks and railway securities into the hands of unscrupulous manipulators of securities instead of into extension and equipment of road beds and legitimate improvements for the economical and speedy handling of freight, together with the suffering entailed, pointed the way for appeals to the people.

The demand for such regulation as would be just to all became so imperative that Congress unwillingly enacted a railway-rate law, which went into effect January 1, 1907. The law will not accomplish all that was expected of it, is not yet perfect, and will not be until people are willing to work along correct economic lines.

The reactionaries will now have their innings, and already papers are full of scare headlines about ruinous restrictions and the dangers that arise from restricting the logical development of business. If the people are wise they will let these serve but one purpose—that of provoking them to the study of statistics, and of the true relation of monopolies to the public. There has been sufficient exposure, agitation and abuse, and the Grange has a splendid opportunity of an awakened interest to develop thought along wise lines.

To secure equitable and economical rates the following are necessary:

(1) Elimination of competition, which is always costly, and substitution thereof of (a) The consolidation of all railways at the earliest possible moment under one system. One school of economists says that this monopoly shall be through government ownership of all transportation companies. The other school, to which the Grange adheres, holds that the monopoly shall be privately owned, but subject to government supervision and regulation. Both schools agree that a monopoly is the only true economic solution which will bring, eventually, cheap and good service. They differ only as to the means. (b) The pooling of interests to avoid competition, the pooling to be under federal regulations.

(2) Classification, with uniform rates on each article in the same class.

(3) The withdrawal of state charters, and the incorporation under a national charter. The laws of the various states conflict, and a state is not in a position to deal with interstate carriers.

(4) The federal regulation of labor unions.

(5) A uniform system of bookkeeping, provisions for auditing, and publishing annually the financial condition of the corporation.

With these provisions there will be a basis for sane development of legitimate trade. The commission will have accurate data upon which to proceed in fixing rates and establishing regulations, and the people will not be dominated by sentimental appeals. When this is done the rights and interests of each will be conserved, which is the end in view. Discussions in popular periodicals and by politicians of the day are not in the interests of true economics, but of what will win votes and dollars for the present. The Grange has led so wisely in the past that it now has not only a great opportunity to lead in educating public sentiment, but to increase its prestige as one of the wise forces in our economic life.

WOMEN AND BUSINESS

"Women are men's superiors in business. They possess many indispensable qualities that men lack. Instead of deploring the wage-earning woman, I should say I hope she has come to stay," said Henry Clews, banker, broker and author. It is good to hear this from a successful business man. The woman with the initiative to dress a family well, keep house nicely on a mere pittance, and turn her hands to a thousand different things, certainly has some business ability.

It is a common remark that children are more apt to grow into helpful men and women when deprived of father than of mother. The fact that women have gone into the industrial field and done that kind of work which their strength permitted them to do equally as well as men does not indicate inferiority.

Women have been compelled to become wage earners because the work they did

in the home was not thought worthy of hire. The inferior place assigned woman's work is manifest by the small wage until recently paid domestics. Girls simply would not work for less than one-tenth what men were getting and put in longer hours and have a social stigma cast on them. People who were ready to recite poetry about the beauty of the home worker were rarely ready to do her economic justice. The household trouble relative to help is far from solution, and much suffering must yet be entailed before men and women learn that any work, whether in the house or out of it, whether done by male or female, is worth a wage. When men and women learn that it requires as much education and business ability to administer the affairs of a house as any other profession, and that such training and ability is worth money, then will housekeeping take what the poets say is its own place.

That the woman loves her home and her work is but added reason for making that work remunerative. We learn slowly, and progress is made through blood and iron, and so must woman's painful progress be made. When women learn to stand by one another, learn that one woman's cause is all women's cause, that they are their own worst enemies, and that men will readily grant them as high a place as they can win, and will respect them for working together, then will an immense gain be made for humanity's cause. Women have no moral right to shirk responsibilities. When they learn the beauty of service to themselves and to humanity, as they have learned it to serve men and children, an immense gain will be made in justice.

The time is not far distant when the woman who says she is not interested in economics and in politics, which is our way of settling economic difficulties, will be held in such contempt as the man who declares he is not interested in the public questions of the day. The Grange has long pronounced in favor of women sharing the responsibility of government, and some day the sentiment of men will be strong enough to force even the indifferent women to bear a part of what they should justly bear.

TAXATION MATTERS

Los Angeles franchise taxes amounted to about \$22,000,000. The assessments were higher this year than last and the board of equalization cut them down twenty-five per cent as against thirty-five per cent last year. The net increase is about \$10,000,000. To get the value of the franchise the stocks and bonds were added and divided by two. The difference between the realty and personalty represents the franchise value.

The county was not so successful in its other tax matters, being hampered by the state constitution, which says that all property shall be assessed at its true value at a uniform rate. Realty has been getting on at a low rate, but this year it was assessed at fifty per cent of its true value, as near as that value could be determined, while personalty, if found, went on at one hundred per cent; \$289,068,975 realty as against about \$70,000,000 personalty was assessed.

California has a constitutional amendment pending which will permit, if carried, a different rate on that property which has affixed value and that which is assessed according to the judgment of various men. Los Angeles discounted this judgment fifty per cent.

There is no state that has a satisfactory tax system. Surely there is a just way of arriving at a matter that is giving so much trouble. Legislating into the constitution has been unwise in each state. Since the federal constitution will safeguard the rights of the people, would it not be better, in the present tax-reforming days, to either leave the matter in the hands of the Assembly, or secure a non-partisan, permanent tax commission with a representative from each of the industries—agriculture, mining, commerce and manufacturing—with a political economist of repute to take the whole matter under consideration and find a system in accord with true economic principles?

With the study being given the question a just system will be found. It seems the weight of folly to engraft immature legislation into the organic body of the land.

IN THE NATIONAL FIELD

H. O. Hadley, Master New Hampshire State Grange was the out-of-state speaker for the annual Grange Day at Thousand Island Park, New York. His address was warmly received.

National Master Bachelder addressed

New York Patrons at Elmira August the twentieth, and Lime Lake, Chautauqua County, the twenty-second.

Chairman of Executive Committee Norris spent one week in August among New Hampshire Granges and addressed a joint meeting of New York and Pennsylvania Patrons at Ripley Park, Chautauqua County.

Ex-Governor Bell, member executive committee National Grange, spent two weeks in Ohio accompanied by State Master Derthick.

Mr. Derthick of the executive committee National Grange spent two weeks in Maine accompanied by State Master Gardner.

Past National Master Jones has spent the entire summer among Eastern states in Grange work. Each reports magnificent audiences and great enthusiasm.

Chairman Norris says: "With all the achievements of the Grange comes responsibility, and the Grange must keep in the procession or we will lose prestige faster than we gain. None but careful, conservative, well-balanced men should be trusted with the Grange ship of state." To which I echo a hearty amen! I have always maintained that the Master of the State Grange in which the Grange is a prime factor has larger responsibilities than the governor of the state, and that he should be chosen as wisely. I have protested against the idea that any one should even be considered as a candidate for State Master simply as a compliment because he was a "nice, good" man.

The Grange is organized for a purpose, and it wants at the helm the man best equipped for bringing that purpose about. Petty politics is disgusting in an organization that stands for clean politics, and aggressive work for humanity through winning justice. Let the Grange keep along well-considered, economic lines, place always at its head the very best ability and keep him there as long as he can bring good to the Order. His gain in experience and his touch with humanity are of inestimable worth to the membership.

THE OBSERVATORY

Pennsylvania has fourteen Grange National Banks with stock ranging from \$25,000 to \$125,000. Tioga National Bank has been made a United States Depository.

With so many states working for a well-articulated good-roads system with state and federal aid, and the National Grange pushing along the same line, the outlook for good-roads legislation is good this winter.

If you want good crops, you work for them. If you want a nicely kept house, you work for it. If you want good government, economically administered, you must work for it. "There is no excellence without great labor."

Patrons will rejoice to learn that Prof. D. W. Working, a frequent contributor to these columns and a forceful writer, has been engaged by the University of West Virginia to do extension work. Congratulations, West Virginia.

Chairman of the Executive Committee Norris recently at one meeting added thirty-seven members from the best farmers of the state, to the Grange, in New York. "It's the Milk Unions that did it," said he. There wouldn't have been milk unions had there not been a Norris.

Past National Lecturer Mortimer Whitehead, the Silver-Tongued Orator, is traveling from state to state firing his hearers with enthusiasm for the Order he loves and represents so well. Through storm and sun Brother Whitehead has worked and his tongue has lost none of its silvery cadences or his manner the persuasive magnetism that draws men and women into the Order.

Ohio State Master Derthick had six notables to attend his Western Reserve Grange rally at Mantua, his home. Ex-governor Bell of Vermont, Governor Harris of Ohio, Miss Mason of the "Ohio Farmer," Hon. Theodore Burton, Geo. E. Pomeroy, President Ohio State Board of Commerce, Allen R. Foote, Commissioner of same body, and President Thompson of Ohio State University.

The Masters of the various State Granges are exchanging dates to a wide degree this year. Hadley of Massachusetts has been in Vermont, New Jersey and New York; Derthick of Ohio goes to Maine, Gaunt of New Jersey, National Lecturer, to several states. Past National Master Jones is touring the Eastern states in behalf of the Grange. This exchange of ideas is a graceful way of bringing each section in contact with every other.

The Grange

BY MRS. MARY E. LEE

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PROTECTION OF BIRDS

A FEW days ago I was traveling through a field some distance from the house, and I found a blue-bird lying beside my path. It had evidently fallen a victim to some so-called sportsmen's shot. But really what sport can there be in taking the lives of innocent birds? It is a shame that some people will find pleasure in taking the lives of innocent, useful birds, especially when they derive no profit whatever from the innocent lives they take.

Some people seem to think that it is an unjust law that forbids sportsmen from hunting and shooting within the enclosed lands of another. But really they are hunting for something which they had never lost, and who has a better right to the rabbits, squirrels, pheasants and quails than the owner of the lands? Squirrels, rabbits and other game, if they cost any one anything, it is the farmer, and the farmer should have the right to hunt, and also to keep others off his lands, especially those who delight in shooting innocent birds, which are so much benefit to the farmer as bug destroyers.

Last fall there was a flock of wild turkeys that made daily visits to my buckwheat fields. The law prohibited any one from shooting turkeys until a date which came after the crop had been harvested. The turkeys did much damage to my crop, but after the closed season had run out there was no scarcity of turkey hunters. You could see them passing about almost every day. The West Virginia law allows the quail killed for a short season about holidays, but it seems to me that the law should protect those little beauties the year round. They are so small that there is not much in hunting them for culinary purposes. They are about the best insect destroyers that we have, and they do very little harm. It is not only a privilege, but it seems to me that it is the duty of every good citizen to see that the game laws, and especially the laws protecting innocent birds, are rigidly enforced. The neglect to enforce a law creates a disrespect for law, and unless a law can be enforced it should not be on the statute book. The law for the protection of birds could be enforced, and it will be as soon as farmers are led to realize the benefits derived from the protection of their bird friends.

SAVING SEED CORN

Many farmers do not appreciate the importance of carefully selecting and saving the seed corn. One reason for this is that they have always practised the old method of going to the crib in the spring and securing their seed, and another may be that they become disgusted with plans advocated by some theorists that advocate methods that may be all right as theories, but are rather too hair splitting for the busy farmer.

My method of selecting the seed corn is to be on the lookout for good seed ears as I husk my corn in the fall, and to select the very best ears and throw them to one side, where I gather them up at noon and in the evening when I start for the house. They are laid away in a dry, safe place, where they will not be disturbed by rats and mice. The seed corn must be kept dry.

When I need the seed in the spring I give my corn another culling, as it may be that an ear shows defects after it is partly shelled that it did not show before the ear was broken. I have practised this method for a number of years, and have had no trouble with my corn not coming up, while some of my neighbors, who select their seed from the crib in the spring, do not get good stands of corn.

A. J. LEGG.

THE 1906 YEARBOOK

The Agricultural Department Yearbook for 1906 is at hand. Secretary Wilson summarizes the year's work as follows:

"The researches of the department and of the experiment stations are enabling producers to meet the requirements of our rapidly increasing population; accessions of plants suitable for semi-arid localities have been introduced with good results; the meat law is being enforced with but little friction; rules governing the equitable enforcement of the pure-food law, as required by act of Congress, have been made; progress has been made in eradicating the gipsy and brown-tail moths in New England by the introduction of imported parasites; a beginning has been made in forming correct rules for grading grain, and facts acquired respecting methods of handling it in transit to market, and the law requiring the humane treatment of live stock enroute to market has received careful consideration, and violations will now be promptly reported to the Department of Justice."

The Secretary of Agriculture makes out a very clear case that by the adoption of reforms in the system of soil fertilization and cultivation the productive capabilities of our country can be almost indefinitely increased. If there were need to do so, the cotton farmer and planter could

double the present crop of two fifths of a bale an acre by the adoption of demonstrated and well-understood principles of farm management as now advocated by the Department of Agriculture. What is true respecting the cotton crop is equally true of corn, wheat and other grain crops, as well as hay, forage, fruit and trucking crops.

As if the whole tree of agricultural knowledge had been torn up by the roots and subdivided, so that there is something for each son of the soil to read about, think about and act upon, so it seems as one takes up and examines the Department Yearbook for 1906. Each reader must pick out what concerns him most, since a mere list of the contents requires more space than our leading agricultural papers can afford to give.

The present volume is less bulky than former ones, but makes up in quality what it lacks in quantity. The distribution of the Yearbook has been begun, and the constituents of the senators and members of Congress in their respective states should send a postal-card request to either a member or senator for a copy before the limited supply is exhausted.

BARN-YARD MANURE

Barn-yard manure contains all the fertilizing elements required by plants in forms that ensure plentiful crops and permanent fertility to the soil. It not only enriches the soil with nitrogen, phosphoric acid and potash which it contains, but it also renders the stored-up materials of the soil more available, improves the mechanical condition of the soil, makes it warmer, and enables it to retain more moisture or to draw it up from below.

Barn-yard manure is a very valuable substance, its composition and value depending principally upon (1) age and kind of animal, (2) quantity and quality of food, (3) proportion of litter, (4) method of management and age of manure.

Mature animals, neither gaining nor losing weight, excrete practically all the fertilizing constituents consumed in the food. Growing animals and milch cows excrete from fifty to seventy five per cent of the fertilizing constituents of the food; fattening or working animals, from ninety to ninety-five per cent. As regards the fertilizing value of equal weights of manure in its normal condition, that of farm animals probably stands in the following order: Poultry, sheep, swine, horses, cattle.

The amounts of fertilizing constituents in the manure stand in direct relation to those in the food. As regards the value of manure produced, the concentrated feeding stuffs, such as meat scrap, linseed meal and wheat bran stand first; the leguminous plants, as clover, peas, etc., second; the grasses, third; cereals, as oats, wheat, etc., fourth; and root crops, such as turnips, beets and mangels, last.

Barn-yard manure is a material which rapidly undergoes change. When it is practicable to haul the manure from the stalls and pen and spread it on the field at frequent intervals the losses of valuable constituents need not be very great; but when, as in winter, the manure must be stored for some time, the difficulties of preservation become greatly increased.

The deterioration of manure results from two chief causes—(1) fermentation, and (2) weathering or leaching. The loss from destructive fermentation may be almost entirely prevented by the use of proper absorbents and preservatives, such as gypsum, superphosphate and kainit, and by keeping the manure moist and compact.

Amounts of different preservatives to be used per head daily:

Preservative	Per horse 1,000 lbs. weight	Per cow 880 lbs. weight	Per pig 220 lbs. weight	Per sheep 110 lbs. weight
Superphosphate...	Lb. Oz. 1 0	Lb. Oz. 1 2	Oz. 3	2 1-2
Gypsum...	1 9	1 12	4 3-5	3 3-5
Kainit.....	1 2	1 5	4	3 1-5

If both superphosphate and gypsum are used, the above proportions of these materials should be reduced from one third to one half. Kainit should be applied to the fresh manure and covered with litter, so that it does not come in contact with the feet of the animals.

Loss from leaching may be prevented by storage under cover or in pits. Extremes of moisture and temperature are to be avoided, and uniform and moderate fermentation is the object to be sought. To this end it is advisable to mix the manure from the different animals thoroughly in the heap.

Barn-yard manure is justly held in high esteem as a general fertilizer, but it has a forcing effect when fresh, and is therefore better suited to grasses and forage plants than to plants grown for seed, such as cereals. Direct applications, especially to root crops, such as beets or potatoes, often prove injurious. This result can, as a rule, be avoided by applying the manure some months before

the planting of the crop or by using only well-rotted manure.

Barn-yard manure is not applied to fruit trees with the same good results that attend its use with field crops, garden truck, etc. It does not stimulate fruiting to the same extent as do the mineral fertilizers. Its tendency is to produce a large growth, but a poor quality, of fruit.

As a rule the best results are likely to be obtained by using some commercial fertilizing materials in connection with barn-yard manure, either in compost or separately.

W. R. GILBERT.

LIME AN AID TO AGRICULTURE

As agricultural science advances, the value of lime applications to acid soils is being more and more recognized. Through the actual experience of our farmers and from the practical results of the experiment stations and of the Department of Agriculture the importance of this calcium compound has been made known.

Many a farmer has wondered why, after a careful application of barn-yard manure or commercial fertilizers, he does not obtain better crop returns. The chances are that his land is in an acid condition, a condition which the ordinary method of fertilizing will not abate. If such soils are examined there will usually be found growing on them the common redtop or sheep sorrel. Every one familiar with the farm knows that this is sour to the taste, and this is sufficient proof that the soil possesses acidity. Oftentimes the presence of the wild oxalis or even yellow dock indicates a similar condition.

Another proof of acid soils, and one that is entirely reliable, is the litmus-paper test. Litmus is a vegetable substance, blue in color in neutral or alkaline state; but in the presence of acid it turns pink or red. Samples of soil are taken here and there at a depth of several inches, from the suspected field, and thoroughly mixed. A handful of this mixed sample is placed in a stoneware jar, and is covered to the depth of three or four inches with rain water. The soil and water are stirred vigorously for a short time, so as to allow the water to come in direct contact with the soil particles. Then the soil is allowed to settle. The clear water above the sediment is then tested for acid by dipping blue litmus paper into it. If the litmus paper turns pink, the soil is acid. This testing paper can be bought at any drug store for a mere trifle.

When the land is proven to be acid, the next step is to correct the acidity; and lime is the correcting agent. Lime may be applied either in the form of calcium oxide (quicklime) or calcium hydroxide (slaked lime).

If the field requiring treatment is to be cropped with oats, corn or potatoes, it is better to apply the lime in either of the two forms mentioned above to the unbroken ground, and then plow it under. Should the crop be wheat, it is always advisable to scatter the lime upon the broken ground, and then thoroughly incorporate it with the loosened ground by means of the cultivator or harrow when preparing the seed bed.

There are several ways of applying lime to the soil. The slaked form may be hauled into the field and deposited in small piles at suitable distances apart, each pile containing about three pecks; then afterward, when time permits, it is scattered with an ordinary shovel. This method does away with the lime dust in scattering. Another method consists of scattering the quicklime with a shovel direct from the wagon or cart. Care must be taken, however, to keep on the windward side, to prevent the caustic effects of the dust upon the face and hands, and upon horses and harness as well. Sometimes finely powdered quicklime or pulverized limestone is sown by means of a fertilizer drill along with the wheat or oats.

Ordinarily from twenty-five to forty-five bushels of slaked lime to the acre will suffice. Allowing eighty pounds to the bushel, this makes just one ton in weight in first quantity and nearly two tons in the second case. For land of more than ordinary acidity, such as black loam or recently drained swamp land, a greater quantity will be required.

It must not be taken that lime is a fertilizer, for it is not. It is only a medium through which fertility is induced. For instance, it renders a stiff soil more workable and porous, it destroys acid conditions and permits the growth of legumes, like clover, through encouragement of the nitrogen-collecting bacteria.

In liming soils, precaution must be observed in not applying an overdose, for this would be as bad, if not worse, than no lime at all, and would impair the soil for several years and diminish its cropping value considerably during that time.

H. S. CHAMBERLAIN.

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UNFERMENTED FRUIT JUICE IN GEORGIA

GEORGIA has gone for prohibition, and questions of perplexing character have been asked as to the outcome. The law is universally regarded by the farmers as being beneficial, for they expect better labor from the negro hereafter. There is another feature which may be turned to advantage in a commercial way, and that is in the manufacture of unfermented fruit juice. A tremendous market will be created for this class of drinks as soon as prohibition becomes effective, which will be the first of next year.

This is one of the greatest fruit states in the Union, and all the waste fruits can be turned into unfermented fruit juices very easily. The drink is strictly temperate, and at the same time receives the endorsement of a large number of physicians as being very healthful and beneficial as a tonic. These juices may be made of peaches, apples, the various varieties of grapes, berries, and in fact of any fruit. No doubt many farmers will engage in growing small fruit for the express purpose of manufacturing fruit juices.

In several sections experiments with the work have demonstrated that it can be made very profitable to farmers, and especially where it is carried on in connection with a cannery. The returns from this class of investment on a farm can scarcely be equaled in any other line. Those who contemplate taking up the work will do well to investigate the matter as soon as possible, and be prepared to get into the work next season before the rush comes on.

In addition to the work which will be followed out in Georgia in this line, other sections can take up the work and find a market for a great quantity of their products. Not only in Georgia, but all over the South, the idea of prohibition and temperance drinks is gaining a foothold, and probably there is no more inviting field for the future farmer than that afforded in fruit culture with the making of unfermented fruit juice in view as a source of revenue. The matter is being taken up as a study by some of the experiment stations, and Oklahoma has made a complete investigation of the business, and issued a pamphlet of information, which may be had by applying to the authorities.

J. C. McAULIFFE.

SOWING TIMOTHY AND REDTOP

I find the best time to sow timothy alone is the last of August or the first of September. The ground should be thoroughly pulverized and the seed drilled, using one hundred and seventy-five to two hundred pounds of good commercial fertilizer and about twenty-three pounds of timothy seed to the acre.

If you want a lasting meadow, or want it for pasture after it is not useful as a meadow, sow about four pounds of clean redtop seed to the acre. The redtop may be sowed broadcast with a seeder.

In 1904 I sowed about three acres this way. In 1905 I had a heavy yield of early timothy hay, and a good pasture the rest of the summer, although it should not be pastured after rains, when the ground is soft. In 1906 I had a fair yield of hay, and this (1907) is a better yield than I have ever had; the land is free from weeds, and the redtop seems to just be getting a good start. It looks now like it would be profitable for several years yet.

If timothy and redtop are sown with wheat they should be sown the middle or last of September; especially is this necessary when the fall is dry. If sown in October they hardly get through the ground before winter sets in, and are therefore greatly damaged by the freezes.

If the fall happens to be wet, the wheat and timothy sown in October will come out all right, but it is a risk to run. Of course, sometimes the early wheat is damaged by fly, but it is either risk the wheat or the grass, and the grass has proved most profitable here the last few years, both as hay and pasture.

F. KING.

TREATING SOIL FOR CLOVER IN ILLINOIS

The state of Illinois is conducting a forty-acre experiment farm near Fairfield, Wayne County, the work of which is under the direction of the agricultural department of the University of Illinois at Urbana.

The forty acres is divided into four tracts, the intention being to make four-year rotation of crops, thus avoiding a like crop being grown on the same ground two years in succession. One will be put in wheat, another in corn, a third in clover, and the fourth in cow peas. Each tract, running north and south, is also divided into other subdivisions, eight by sixteen rods square. The soil on these small plots is treated differently.

A chemical analysis being made of the

soil, it was discovered that it was in a soured condition. To counteract or remove this, two tons of ground limestone was added to each acre. It was discovered that there was a deficiency in phosphates, to remedy which ground rock phosphate was added to the extent of about one ton to the acre. To show the difference in results, some of the tracts were given common manure additional to the phosphate and lime. Some were given manure alone. Some were not treated at all. Careful records are kept of the crops gathered, so that the results of the different treatments can be obtained.

By the treatment of the lime rock it is hoped to neutralize the acid and sweeten the soil, so that it will produce clover, and in this way get the nitrogen into the soil. This part of the experiment has not yet been very successful. It is hoped, however, by another year to secure results from the soil treatment that will permit a good crop of clover.

Every farmer should keep posted on these experiments, which are being made in various parts of the country, and as far as possible make a personal inspection of the work that is being done.

W. J. B.

GROWING DATES IN TEXAS

A striking illustration of the almost unlimited agricultural possibilities of our great country and of the thoroughness and acumen that characterizes the work of our national department of agriculture is furnished by a recent newspaper report of the successful introduction of date culture in Texas.

The first perfect dates ever grown in Texas are now being harvested from two trees at the home of Fred Woolfley, in Laredo. The date-palm trees have grown and thrived throughout the lower Rio Grande region for more than half a century, and on the Mexican side of the river the tree has flourished for fully a century. During all these years it has been unproductive. The trees were never pollinated. Without artificial pollination the date flower is incapable of producing perfect fruit.

Harvey C. Stiles, a noted horticulturist, became interested in the date-palm trees of this section two years ago. He found that while they grew to perfection and were to all appearances capable of bearing great quantities of fruit, they were either entirely barren or the fruit which they grew was immature and worthless. He began experimenting with artificial pollination, and his success was marvelous. He pollinated two trees last year—one at Corpus Christi and the other at Brownsville. These first experiments proved to him that the many trees which are already growing throughout this part of the state could be made a source of wealth if the artificial method of fruition was carried out.

Mr. Woolfley became interested in the pollination experiments, and this spring he took great care in pollinating the two trees which grow in his yard here. He succeeded in perfecting nearly every cluster of dates, and each tree will produce nearly four hundred pounds of the fruit. The first of the fruit is now being gathered.

"I predict that the date will become a staple and famous product of semi-tropic Texas," said Mr. Stiles. "The best, most ideal date section is that lying along the river, southward from Laredo, and coastward, but not too near the coast, for while the date tree thrives in all its tropic beauty and luxuriance near the coast, and produces abundant fruit of good flavor, yet the fruit from the sections hot and dry, free from humidity, is the only fruit valuable for commercial uses." V.

AGRICULTURAL NEWS-NOTES

The economic potentiality of agriculture is enormous when we take into consideration the total crop production of last year.

The use of rice straw for paper-making purposes in Louisiana and Texas is likely to prove a boon to the rice growers. Heretofore the straw has been a waste product. Its value is now said to be not less than five dollars an acre.

Heretofore the South American Republics have used but little nitrate of soda, which is among the most valuable of all fertilizers. Now, however, the Chilean government is to ship enough to Argentina to fertilize one hundred and fifty thousand acres, by way of extending its use in that great wheat, corn and flaxseed producing country.

The demand for peanuts and popcorn is steadily increasing. The home of the peanut is in southeast Virginia, and the source of popcorn is in Calhoun and Sac Counties, Iowa. In these counties some growers have from two hundred to five hundred acres. The usual yield is from forty to sixty bushels to the acre, bringing \$1.50 to \$1.75 a bushel of ears.

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